
Meridian 1 Options 21 through 81C

Basic Telecom Management

Document Number: P0912434

Document Release: Standard 6.00

Date: October 2000

Copyright © 1995– 2000

All Rights Reserved

Printed in Canada

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

SL-1, MERIDIAN 1 and DIGITONE are trademarks of Nortel Networks.

Revision History

October 2000

Standard, Issue 6.00. This document is issued for X11 Release 25.3x.

June 1999

Standard, Issue 5.00. This document is issued for X11 Release 24.2x.

December 1997

Standard, Issue 4.00. This document is issued for X11 Release 23.0x.

October 1996

Standard, Issue 3.00. This document is issued for X11 Release 22.0x.

January 1996

Standard, Issue 2.00. This document is issued for X11 Release 21.1x.

September 1995

Standard, Issue 1.00. This document is issued for X11 Release 20.1x.

Revision History

Table of Contents

Book 1

About this guide	1
Who should use this guide	1
How to use this guide	1
How the sections of this guide work	2
How icons and symbols are used	3
How prompts and responses are represented	7
Software Releases	8
Availability of product	9
Language standards and translations	9
Additional Meridian 1 documentation	9
 Before you begin	
You should know this	11
Basic telephone concepts	11
Generations of systems	15
System hardware components	19
System software	25
Telephones	31
Attendant Consoles	36
Features	44
Terminal Number (TN)	52
Traffic	55
Purpose	55
Setting up	55
Using the data	56
Terms you should know	60
Traffic study options	62
System, Customer, Network traffic studies	62

Table of Contents

System traffic study options	64
TFS001 – Networks	66
TFS002 – Service loops	77
TFS003 – Dial tone delay	81
TFS004 – Processor load	84
TFS005 – Selected terminals	87
Other System traffic study options	90
Customer traffic study options	91
TFC001 – Networks	92
TFC002 – Trunks	96
TFC003 – Attendant queue	102
TFC004 – Attendant consoles	106
TFC005 – Features	111
Other Customer traffic study options	115
Setting up the study	116
Printout formats	117
Invoking data	117
Control tips	118
Administration tips	119
Training tips	119
Call Detail Records	121
Purpose	121
Setting up	121
Types of basic call records	122
Interactions with other features	126
Improving performance	127
Control tips	135
Administration tips	135
Training tips	137
 Basic programming instructions	
Basic programming instructions	139
Introduction	139
Types of programming terminals	140
Overlay programs	146
Overlay program hierarchy	147
Passwords	149

Table of Contents

Logging in	151
Login	155
Prompts and responses	157
Changing a telephone	161
Removing data	162
Finishing the overlay program	164
Data Dump	166
Logging off	167
Finding out the TN assigned to a telephone	168
How to print a DN Block	170
Printing the data programmed for a telephone	172
How to print a TN Block	173
Printing Hunt chains	174
Printing other data blocks	176
Overlay linking	178
Setting the system time and date	178

Making a telephone work

Introduction to telephones	181
Purpose	181
Basic configuration	181
Improving feature performance	187
Control tips	188
Administration tips	188
Training tips	188
What to have ready	189
New dial telephone	191
Purpose	191
Basic configuration	192
Improving performance	202
Control tips	203
Administration tips	203
Training tips	203
What to have ready	204
Procedure summary	206
Programming procedure	207

Table of Contents

New Digitone telephone	217
Purpose	217
Basic configuration	218
Improving performance	229
Control tips	229
Administration tips	230
Training tips	231
What to have ready	232
Procedure summary	234
Programming procedure	235
New M8000 telephone	245
Purpose	245
Basic configuration	246
Improving performance	256
Control tips	257
Administration tips	257
Training tips	258
What to have ready	259
Procedure summary	261
Programming procedure	262
New M8009 telephone	271
Purpose	271
Basic configuration	272
Improving performance	283
Control tips	284
Administration tips	284
Training tips	285
What to have ready	286
Procedure summary	288
Programming procedure	289
New M8314 telephone	299
Purpose	299
Basic configuration	301
Improving performance	312
Control tips	313
Administration tips	313

Table of Contents

Training tips	314
What to have ready	316
Procedure summary	318
Programming procedure	319
New M8417 telephone	329
Purpose	329
Basic configuration	331
Improving performance	342
Control tips	343
Administration tips	343
Training tips	344
What to have ready	346
Procedure summary	348
Programming procedure	349
New M2006 telephone	359
Purpose	359
Basic configuration	360
Improving performance	373
Control tips	376
Administration tips	377
Training tips	377
What to have ready	378
Procedure summary	380
Programming procedure	381
New M2008/M2008HF telephone	389
Purpose	389
Basic configuration	391
Improving performance	404
Control tips	409
Administration tips	409
Training tips	410
What to have ready	411
Procedure summary	413
Programming procedure	414
New M2216ACD telephone	425
Purpose	425

Table of Contents

Basic configuration	427
Improving performance	440
Control tips	445
Administration tips	446
Training tips	446
What to have ready	447
Procedure summary	449
Programming procedure	450
New M2317 telephone	459
Purpose	459
Basic configuration	460
Improving performance	473
Control tips	476
Administration tips	476
Training tips	477
What to have ready	478
Procedure summary	480
Programming procedure	481
New M2616 and M2616CT telephone	489
Purpose	489
Basic configuration	492
Improving performance	505
Control tips	510
Administration tips	511
Training tips	511
What to have ready	512
Procedure summary	514
Programming procedure	515
New M3110 telephone	523
Purpose	523
Basic configuration	524
Improving performance	537
Control tips	540
Administration tips	540
Training tips	541
What to have ready	542

Table of Contents

Procedure summary	544
Programming procedure	545
New M3310 telephone	555
Purpose	555
Basic configuration	557
Improving performance	571
Control tips	575
Administration tips	575
Training tips	576
What to have ready	577
Procedure summary	579
Programming procedure	580
New M3820 telephone	591
Purpose	591
Basic configuration	593
Improving performance	608
Control tips	612
Administration tips	613
Training tips	614
What to have ready	615
Procedure summary	617
Programming procedure	618
New M3901 telephone	629
Purpose	629
Basic configuration	630
Improving performance	640
Control tips	642
Administration tips	643
Training tips	643
What to have ready	644
Procedure summary	646
Programming procedure	647
New M3902 telephone	655
Purpose	655
Basic configuration	657
Improving performance	669

Table of Contents

Control tips	672
Administration tips	672
Training tips	673
What to have ready	674
Procedure summary	676
Programming procedure	677
New M3903 telephone	685
Purpose	685
Basic configuration	687
Improving performance	701
Control tips	704
Administration tips	705
Training tips	705
What to have ready	706
Procedure summary	708
Programming procedure	709
New M3904 telephone	717
Purpose	717
Basic configuration	719
Improving performance	733
Control tips	736
Administration tips	737
Training tips	737
What to have ready	738
Procedure summary	740
Programming procedure	741
New M3905 telephone	749
Purpose	749
Basic configuration	751
Improving performance	764
Control tips	767
Administration tips	767
Training tips	768
What to have ready	769
Procedure summary	771
Programming procedure	772

Table of Contents

New i2004 Internet Telephone	781
Purpose	781
Basic configuration	785
Control tips	790
Administration tips	790
Training tips	791
What to have ready	792

Book 2

Changing the basics

Changing a basic dial telephone	793
Purpose	793
Basic configuration	793
Improving performance	803
Control tips	803
Administration tips	803
Training tips	804
What to have ready	804
Procedure summary	806
Programming procedure	808
Changing a basic Digitone-type telephone	821
Purpose	821
Basic configuration	821
Improving performance	831
Control tips	831
Administration tips	831
Training tips	832
What to have ready	832
Procedure summary	834
Programming procedure	835
Changing a basic digital telephone	849
Purpose	849
Basic configuration	849
Improving performance	859
Control tips	860

Table of Contents

Administration tips	860
Training tips	861
What to have ready	861
Procedure summary	863
Programming procedure	865

Adding and changing features

Answering calls

Make Set Busy Improvement 877

Purpose	877
Basic feature configuration	878
Improving feature performance	881
Control tips	882
Administration tips	883
Training tips	883
What to have ready	884
Procedure summary	885
Programming procedure	886

Message Center 893

Purpose	893
Basic feature configuration	895
Improving feature performance	907
Control tips	912
Administration tips	912
Training tips	913
What to have ready	914
Procedure summary	916
Programming procedure	918

Ringling features 931

Distinctive Ringing Groups	932
Flexible Tones and Cadences	933
Ringling Change Key	933
Network and Executive Distinctive Ringing	934
Distinctive Ringing by DN	935
Distinctive Ringing for Dial Intercom	936
Buzzing	937

Table of Contents

Ringing instead of Buzzing	937
Tones, Flexible Incoming	938
Distinctive Ringing on trunk routes	939
New Distinctive Ringing on trunk routes	939
Directory Number Delayed Ringing (DNDR)	940
Make Set Busy Improvement	941
During a call	
Automatic Hold	943
Purpose	943
Basic feature configuration	945
Improving feature performance	948
Control tips	949
Administration tips	949
Training tips	949
What to have ready	950
Procedure summary	951
Programming procedure	952
Call Transfer	957
Purpose	957
Basic feature configuration	958
Improving feature performance	967
Control tips	968
Administration tips	969
Training tips	969
What to have ready	970
Procedure summary	972
Programming procedure	976
Conference	987
Purpose	987
Basic feature configuration	988
Improving feature performance	996
Control tips	998
Administration tips	998
Training tips	998
What to have ready	999
Procedure summary	1000

Table of Contents

Programming procedure	1002
Multi-Party Operations	1015
Purpose	1015
Basic feature configuration	1017
Improving feature performance	1054
Control tips	1055
Administration tips	1055
Training tips	1056
What to have ready	1057
Procedure summary	1060
Programming procedure	1064
Making calls	
Autodial	1075
Purpose	1075
Basic feature configuration	1076
Improving feature performance	1082
Control tips	1084
Administrative tips	1085
Training tips	1086
What to have ready	1086
Procedure summary	1088
Programming procedure	1089
Speed Call and System Speed Call	1099
Purpose	1099
Basic feature configuration	1099
Control tips	1111
Administration tips	1112
Training tips	1113
What to have ready	1114
Procedure summary	1115
Programming procedure	1116
Redirecting calls	
Call Forward All Calls	1135
Purpose	1135
Basic feature configuration	1138

Table of Contents

Improving feature performance	1153
Control tips	1159
Administration tips	1163
Training tips	1166
What to have ready	1166
Procedure summary	1169
Programming procedure	1173
Call Forward Busy	1185
Purpose	1185
Basic feature configuration	1185
Improving feature performance	1188
Control tips	1188
Administration tips	1189
Training tips	1189
What to have ready	1190
Procedure summary	1191
Programming procedure	1193
Call Forward by Call Type (Call Forward No	
Answer Option)	1205
Purpose	1205
Basic feature configuration	1206
Improving feature performance	1211
Control tips	1218
Administration tips	1218
Training tips	1219
What to have ready	1219
Procedure summary	1223
Programming procedure	1225
Call Forward by Call Type (Hunting Option)	1265
Purpose	1265
Basic feature configuration	1266
Improving feature performance	1275
Control tips	1280
Administration tips	1281
Training tips	1281
What to have ready	1282

Table of Contents

Procedure summary	1284
Programming procedure	1287
Call Forward No Answer	1313
Purpose	1313
Basic feature configuration	1313
Improving feature performance	1328
Control tips	1335
Administration tips	1336
Training tips	1336
What to have ready	1337
Procedure summary	1339
Programming procedure	1342
Hunting	1373
Purpose	1373
Basic feature configuration	1374
Improving feature performance	1391
Control tips	1397
Administration tips	1398
Training tips	1399
What to have ready	1400
Procedure summary	1402
Programming procedure	1404
Hunting by Call Type	1425
Purpose	1425
Basic feature configuration	1425
Improving feature performance	1431
Control tips	1434
Administration tips	1434
Training tips	1434
What to have ready	1435
Procedure summary	1437
Programming procedure	1438
Multiple Appearance DN Redirection Prime	1457
Purpose	1457
Basic feature configuration	1458
Improving feature performance	1470

Table of Contents

Control tips	1470
Administration tips	1471
Training tips	1471
What to have ready	1472
Procedure summary	1473
Programming procedure	1475
Second Level Call Forward No Answer	1497
Purpose	1497
Basic feature configuration	1497
Improving feature performance	1506
Control tips	1506
Administration tips	1507
Training tips	1507
What to have ready	1508
Procedure summary	1510
Programming procedure	1512
User Selectable Call Redirection	1527
Purpose	1527
Basic feature configuration	1529
Improving feature performance	1542
Control tips	1542
Administration tips	1542
Training tips	1543
What to have ready	1544
Procedure summary	1546
Programming procedure	1548

Book 3

Restricting users

Access Restriction	1569
Purpose	1569
Basic feature configuration	1570
Improving feature performance	1580
Control tips	1581
Administration tips	1581
Training tips	1583

Table of Contents

What to have ready	1584
Procedure summary	1585
Programming procedure	1589
Electronic Lock	1595
Purpose	1595
Basic feature configuration	1596
Improving feature performance	1601
Control tips	1603
Administration tips	1603
Training tips	1604
What to have ready	1604
Procedure summary	1606
Programming procedure	1608
Purpose	1617
Trunk Group Access Restriction	1617
Basic feature configuration	1619
Improving feature performance	1624
Control tips	1626
Administration tips	1628
Training tips	1630
What to have ready	1630
Procedure summary	1633
Programming procedure	1634
Copying a telephone	
Copying a telephone	1641
Purpose	1641
Preparation	1643
Improving performance	1647
Control tips	1649
Administration tips	1649
Training tips	1650
What to have ready	1650
Procedure summary	1652
Programming procedure	1653

Table of Contents

Moving a telephone

Moving a telephone	1663
Purpose	1663
Preparation	1664
Improving performance	1674
Control tips	1674
Administration tips	1675
Training tips	1675
What to have ready	1676
Procedure summary	1678
Programming procedure	1680

Removing a telephone

Removing a telephone	1687
Purpose	1687
Preparation	1688
Improving performance	1694
Control tips	1694
Administration tips	1694
Training tips	1694
What to have ready	1695
Procedure summary	1696
Programming procedure	1698

Terms and abbreviations

1711

Appendixes

Appendix 1

LD 10 Prompt, Response, Reference	1741
--	-------------

Appendix 2

LD 11 Prompt, Response, Reference	1743
--	-------------

Appendix 3

Station review checklist	1747
---------------------------------------	-------------

Table of Contents

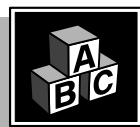
Appendix 4	
LD 10 Worksheet	1765
LD 11 Worksheet	1767
Appendix 5	
Common term, Nortel term, Reference	1771
Index	1773

Changing a basic dial telephone

Purpose

The information in this Task module will help you if a user at your site needs a change made to one of the basic parameters associated with an existing dial telephone. The basic parameters that are covered in this module are listed below under *Basic configuration*.

Basic configuration



This Task module covers the following types of changes:

- ◆ line card density
- ◆ designator
- ◆ customer group
- ◆ Directory Number (DN)
- ◆ changing from a dial telephone to a Digitone-type telephone

If you are moving the telephone to a different TN in the system, refer to the *Moving a telephone* section in this book.

Default values

The overlay program you use for this task presents a series of programming mnemonics called prompts. The system presents these to the programmer in a particular sequence. When you are making a change to an existing telephone, you enter a response only to the prompt which applies to your change requirements.

Changing a basic dial telephone

A carriage return is also considered a response.

- ◆ When programming a new telephone, a carriage return after a prompt enters the default value as a response.
- ◆ When programming a change to an existing telephone, a carriage return after a certain prompt leaves, unchanged, the response that was already entered in the database.



Get a printout of the existing programming of the telephone before you begin your changes.

You can see from the printout what responses are already programmed for each prompt.

Look at the printout to decide what programming you need to do to implement the change.

Customer group

Most systems provide service to one group of users who belong to one company, organization or customer group. The telephones are assigned a customer group number for programming purposes.

If there is more than one customer group on your system, you must have a good understanding of what equipment belongs to each group.

When you change a telephone from one customer group to another, you might need to update other records you have.

Overlay program (LD) 15, the Customer Data Block, defines many customer-wide parameters. It is beyond the scope of this book to discuss this entire overlay program in detail. However, this book does describe programming which must be done in LD 15, if it is relevant to a telephone-related programming task.

The maintenance agreement you have with your system supplier probably specifies what programming you may do and what they must do. Check agreements of that nature before programming in the Customer Data Block yourself. It is assumed, in this book, that your system supplier carries out the programming in LD 15.

Changing a basic dial telephone

When telephones are installed they must be assigned to the correct customer group to operate properly. The step-action table at the end of this module tells you how to find out your customer group number, or you can ask your system supplier what it is. On a single-customer system the default customer group number is 0.

Directory Number (DN)

Directory Numbers (DNs) are the numbers assigned to the individual telephones. These are the numbers users dial to call each other.

DNs can be one to seven digits in length when the DN Expansion (DNXP) software package 150 is equipped on the system. Without DN Expansion, the DNs can be one to four digits.

Single Appearance or Multiple Appearance DN

You must understand the following terms in order to change a DN.

The term *appearance* means that a DN has been assigned to a telephone or a key on a telephone.

Single Appearance DNs appear on only one telephone. A Single Appearance DN can only be configured to handle one call at a time.

Multiple Appearance DNs appear on more than one telephone, or more than one key on a telephone such as a digital telephone.

Refer to Task 40, *Multiple Appearance DN Redirection Prime* for important information on a Multiple Appearance DN feature. It is important that you understand this feature if you are changing the DN assigned to a telephone that has been designated as the prime appearance (or MARP) of a Multiple Appearance DN.

There are two configurations to choose from when dealing with Multiple Appearance DN, Single Call and Multiple Call.

Single Call DN

The DN can handle one call at a time.

This means that when one person is using the DN, the indicator is lit steadily at other appearances of that DN on digital telephones or SL-1-type telephones.

Changing a basic dial telephone



Unless programmed otherwise, a Single Call configuration is the default configuration of a DN when it is programmed on a dial telephone.

If the same Single Call DN is shared between a dial telephone and an SL-1-type or digital telephone, there is no way to prevent a user from breaking in on an active call in progress on the shared DN.

If privacy is important, choose one of the following two options:

- ◆ do not assign the same Single Call DN to a dial telephone and an SL-1-type or digital telephone
- ◆ replace the dial telephone with an SL-1-type or digital telephone. There is privacy on shared Single Call DN's on these types of telephones.

Multiple Call DN

The DN can handle more than one call at a time.

This means that when one person is using the DN, the indicator is not lit at other appearances of that DN on digital telephones or SL-1-type telephones. These other appearances are available to receive additional calls, or can be used to make calls.

A Multiple Call DN is not treated as busy until there are calls on all the programmed appearances of the DN. There can be a maximum of 16 appearances of one DN on systems using software prior to Release 13; after that release there can be a maximum of 30 appearances of the same DN.

Your system might have memory constraints which prevent you from reaching the maximum numbers. Consult with your system supplier before you implement Multiple Appearance DN's.

Changing a basic dial telephone

Multiple Call Class of Service

If you want to make a DN on a dial telephone a Multiple Call DN, this is activated in the Class of Service.



With Release 15.58F software, the Multiple Call Class of Service is used along with the Centralized Multiple Line Emulation feature. Discuss the application of this feature with your supplier. It is beyond the scope of this book.

With Release 20 software, the Multiple Call Class of Service is used in conjunction with the use of Meridian COMPANION™ wireless telephones on your system.



Consistent configuration

Whether you choose Single Call or Multiple Call, all appearances of one DN must be the same configuration. You cannot have one appearance of a DN programmed as Single Call and another appearance of the same DN as Multiple Call. If you attempt to do that, you will see a Service Change Error message on your programming terminal.

The step-action table at the end of this module explains how to change a DN on a dial telephone.

Numbering Plan

Many systems have a carefully planned scheme for the use of numbers such as Directory Numbers (DNs), trunk-group access codes, and feature-access codes. This is called the Numbering Plan. It is used to record the numbers which are currently in use on a site and might also include numbers that are reserved for some future use. If, for example, you have reserved Direct-Inward-Dial (DID) telephone numbers with your telephone company for future use, it is important to record that in the Numbering Plan.

Changing a basic dial telephone

Careful planning is required in order to:

- ◆ prevent conflicts between numbers used for different purposes
- ◆ organize the use of numbers to help simplify the administration of the system
- ◆ ensure there will be enough available numbers to accommodate the foreseeable growth of the system

Keep a summary of the Numbering Plan on site. Before you make a change to the DN assigned to a telephone, familiarize yourself with the existing Numbering Plan. For more information on the Numbering Plan refer to the *Terms and abbreviations* module in this book.



DN-Block printout

If you need to know exactly what numbers are presently in use on your system, you can get a printout. You can use LD 22 for this on any system or, if you have Release 19 or later running on your system, you can use any one of LDs 10, 11, 20, 22, or 32. To get a printout of all the assigned DNs, you can request a DN-Block printout. This printout also includes trunk-group access codes which are currently in use. The step-action table at the end of this module shows you how to do this.

When you change the DN assigned to a dial telephone, look at your DN-Block printout or your Numbering Plan before you decide what new DN to assign. Update your records to indicate the DN which you are removing and the new DN you are assigning.

Terminal Number (TN)

Use programming to identify the physical location of every telephone in the hardware of the system. The physical location or address is composed of a Loop number, Shelf number, Card number, and Unit number. These numbers make up the Terminal Number (TN) of the telephone.

If you are using a system running with Release 15 or later software, it can be equipped with either loops or Superloops. If you are using a system with software prior to Release 15, the system can be equipped with only loops. Loops and Superloops belong in the Network Equipment part of the system.

Changing a basic dial telephone

If you are not sure what type(s) of Network Equipment you are using, ask your system supplier. They can also tell you about your shelf and card equipment.

Refer to the *You should know this* module for more information on the hardware of your system.

Before you can make a programming change to a telephone, you must know the TN assigned to it. There are a number of ways you can find out what TN has been assigned:

- ◆ ask your system maintainer what Terminal Number (TN) is assigned to the telephone
- ◆ ask if the telephone is labelled or the jack is labelled with the TN
- ◆ if you have access to the print programs, follow the print procedure in the step-action table in this module to find out what Terminal Number has been assigned to the telephone

If you are changing the TN associated with an existing telephone you can do one of the following things:

- ◆ follow the instructions in , *Moving a telephone*
- ◆ remove the telephone from the existing TN by taking it out in programming and installing it as a new telephone at the other TN. Refer to the module called *Removing a telephone* and also the Task modules related to *Making a telephone work* and *Adding and changing features*.

The disadvantages of using this method are:

- it is more time consuming than programming a move
- you risk making errors, since there is more programming involved
- ◆ ask your system maintainer if they prefer to interchange or move telephones by working on the cross-connect panel instead of using programming to do the change

Decide on the approach which best suits the situation.

Changing a basic dial telephone

Card density

Telephones are connected to interface cards in the system called line cards. There are three kinds of line cards for dial telephones: single-, double-, or quadruple-density.

Single-density line cards connect to a maximum of four telephones. Double-density line cards connect to a maximum of eight telephones. Quadruple (quad) density line cards connect to a maximum of sixteen telephones.

Systems using Superloops can use *intelligent* line cards. They are called intelligent because they possess microprocessors.

As of Release 20, double-density intelligent line cards are available for off-premises extensions. They connect to a maximum of eight telephones.

Quadruple-density intelligent line cards, connect to a maximum of 16 on-site dial telephones.

If the line card for an existing telephone is changing, the type of card may change to:

- ◆ a decreased density
- ◆ an increased density
- ◆ or the new card may have the same density as the old one



If the line card density is increasing and the Loop is not yet configured for the increase, your system maintainer has some programming changes to make to the Configuration Record prior to your programming. Coordinate the necessary programming with your system maintainer.

Designator (DES)

When you want printouts of the data associated with telephones you can request DN-Block and TN-Block printouts. Using only those printouts it might be difficult to identify each telephone specifically, especially if several telephones share the same DN. For example, you might find it easier if a department name prints out along with the other data.

Changing a basic dial telephone

With Office Data Administration System (ODAS) software equipped on a system, you can program each telephone in the database with a designator (DES) code.

The DES code can be a maximum of six alphanumeric characters.

You can use the designator to identify telephones in many different ways for your own purposes. Here are some suggestions:

- ◆ location in the building, for instance the floor number or room number
- ◆ cable pair
- ◆ telephone user's department, to be used for billing or inventory purposes
- ◆ user's name, although the name does not display when the user makes calls

Once the designators have been assigned, you can request printouts of telephones according to the DES codes you have assigned. For example:

- ◆ you might want to know what telephones are in a specific department so you can bill the department manager. You would request a printout of the telephones that share the same department identifier you assigned as the DES code for that department.
- ◆ you might have a group of telephones that share the same DN. If you want to move, change or remove one of them, you can print the telephone with the DES code that is specific to that telephone and find what TN is assigned to it.
- ◆ you can print the data for all the telephones that share a DN and use the DES codes to help you identify quickly which telephone is to be moved, changed, or removed.

Check to see if you have a policy on assigning DES codes to telephones. If there is no policy in place, decide if DES codes can be of use to you. If not, you can enter any code you like when the prompt appears. On most systems you *must* enter a code in order for the next prompt to appear.

Changing a basic dial telephone

You can use the step-action table at the end of this module for help in assigning a DES code to a new telephone.

Class of Service (CLS)

When you replace a dial telephone with one that is Digitone, you must make a Class of Service change. If you do not, the user of the Digitone telephone cannot make calls, they can only receive them.

Dial telephones transmit pulses when calls are dialed. The Class of Service is dial pulse (DIP).

Digitone telephones transmit tones when keys on the keypad are pressed. The Class of Service is Digitone (DTN). The tones transmitted must be translated by digitone receiver (DTR) cards in the system for the call to be processed.

When a Digitone telephone is programmed with a DIP Class of Service in error, the system does not reserve the necessary digitone receiver when the user initiates a call. As a result, the user cannot make calls. When the Class of Service is changed to DTN, the system operates properly.

You can read about digitone receivers in the Peripheral Equipment part of the *You should know this* module in this guide.

Table 127
Default settings for outpulsing-type Class of Service

Release	Default
19 or 20	DTN
18 or earlier	DIP

Find out what release of software your system has and what your default setting is.

Get a printout of the programming associated with the telephone you are changing before you begin to make changes.

Changing a basic dial telephone

Improving performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.



Before changing dial telephones to Digitone, your system supplier must do some provisioning calculations to equip your system with the proper number of digitone receiver cards for the number of Digitone telephones you expect to install. Discuss this issue with them.

Control tips



- ◆ If you are using a Call Detail Recording system to track and bill calls made by users, any new DNs must be entered into the database for that system. DNs which are no longer used must be removed.

Administration tips



- ◆ If you are changing the DN of a telephone:
 - prepare changes to directories in advance
 - notify people (both internal and external) of the change
 - alter business cards and other forms of advertising, such as FAX cover sheets, coincident with the change to the DN
 - prepare the attendant(s) when a user's DN changes
- ◆ If you are changing the customer group or DES code assigned to a telephone, assess the impact this will have on your billing system. Prepare the change to that system or to your records, in advance.

Changing a basic dial telephone

Training tips



- ◆ A user who is changing from a dial telephone to a Digitone-type benefits from easier to use feature codes with the new telephone. Training helps the user learn the new codes. The user who does not want to learn the new codes can continue to dial the same codes for features as dial telephone users.
- ◆ If a telephone changes from one customer group to another, the user might need training on a different dialing plan and different telephony-related procedures.

What to have ready

The following checklist summarizes the steps you should take before making basic changes to an existing dial telephone.

Table 128
Checklist

Basic	Optional	Preparation
✓		Find out the TN which is assigned to this telephone.
✓		If the customer group is changing, determine the new customer group number.
✓		If the line card density is changing, find out the density of the new line card for the telephone.
✓		If the line card density is increasing, arrange with your system supplier to make Configuration Record changes, if required.
✓		If the DES code is changing, decide what new alphanumeric characters (up to six) you want to use as a designator code.
✓		If the DN is changing, according to the Numbering Plan on your site and the needs of the user, decide on the new DN.
— continued —		

Changing a basic dial telephone

Table 128
Checklist (Continued)

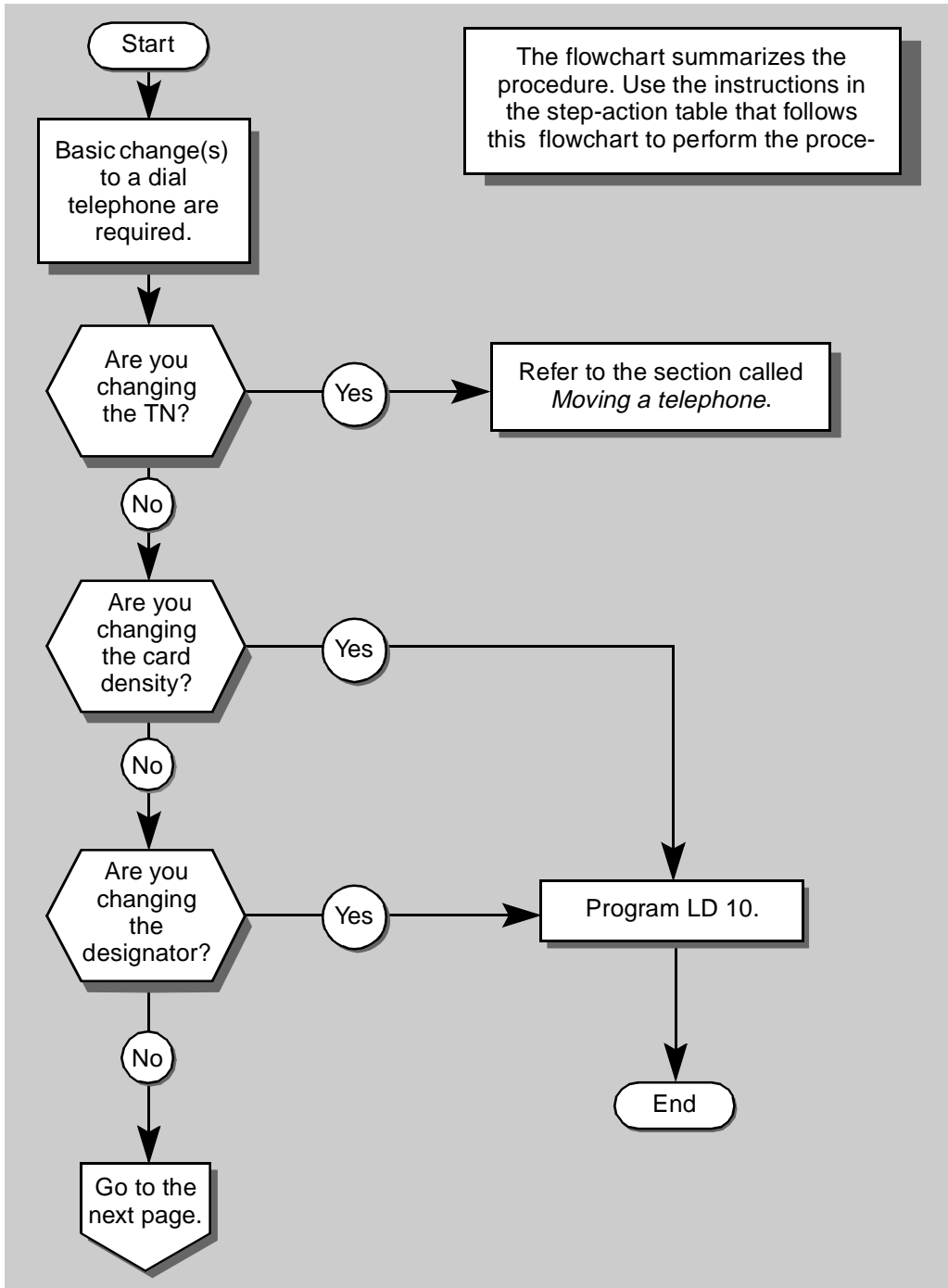
Basic	Optional	Preparation
✓		If the DN is changing, order changes to business cards, FAX cover sheets, directories.
✓		If the DN is changing, make changes to CDR systems, or billing systems.
✓		If you are changing from a dial to a Digitone telephone for the first time or there are many telephones changing to Digitone, discuss the new DTR requirements with your system supplier.
✓		If the telephone is changing to Digitone, prepare training aids and do training about the new feature codes.

What's next?

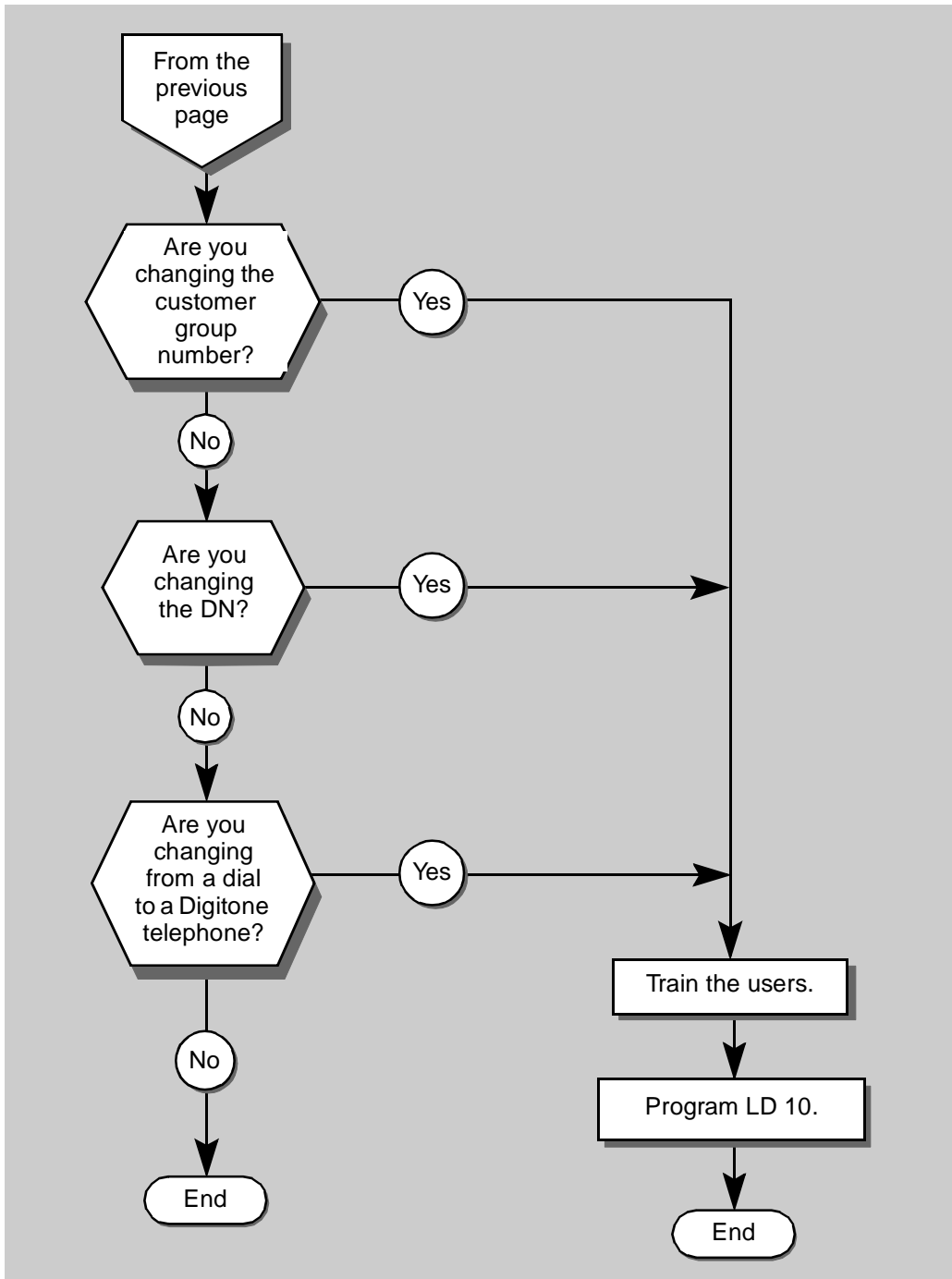
A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. Use it to do the programming steps necessary for basic programming changes to a dial telephone.

Changing a basic dial telephone



Changing a basic dial telephone



Changing a basic dial telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation of a dial telephone only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION														
1	Log in.														
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.														
2	Choose the starting point in this procedure that applies to the change you want to make to the telephone.														
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>changing TN</td> <td>See the <i>Moving a telephone</i> section of this book.</td> </tr> <tr> <td>changing card density using Easy change</td> <td>step 3</td> </tr> <tr> <td>changing card density not using Easy change</td> <td>step 4</td> </tr> <tr> <td>changing designator using Easy change</td> <td>step 5</td> </tr> <tr> <td>changing designator not using Easy change</td> <td>step 6</td> </tr> <tr> <td>changing customer group number using Easy change</td> <td>step 7</td> </tr> </tbody> </table>	If	Do	changing TN	See the <i>Moving a telephone</i> section of this book.	changing card density using Easy change	step 3	changing card density not using Easy change	step 4	changing designator using Easy change	step 5	changing designator not using Easy change	step 6	changing customer group number using Easy change	step 7
If	Do														
changing TN	See the <i>Moving a telephone</i> section of this book.														
changing card density using Easy change	step 3														
changing card density not using Easy change	step 4														
changing designator using Easy change	step 5														
changing designator not using Easy change	step 6														
changing customer group number using Easy change	step 7														
— continued —															

Changing a basic dial telephone

STEP ACTION

2 continued ...

changing customer group number not using Easy change	step 8
changing DN using Easy change	step 9
changing DN not using Easy change	step 10
changing from dial to Digitone telephone using Easy change	step 11
changing from dial to Digitone telephone not using Easy change	step 12

3 Change the card density using Easy change



CAUTION

If the card density is changing to a higher density type, the loop must be properly configured beforehand. Ask your system supplier to program LD 17 if required.

```
> LD 10
REQ  CHG           Requesting a change to an existing telephone
TYPE 500          Dial or Digitone-type telephone
TN   L S C U      Input the Loop/Superloop number, Shelf number,
                  Card number, Unit number of the telephone. Use
                  the space bar between each number and the
                  next.
```

— continued —

Changing a basic dial telephone

STEP	ACTION	
3 continued ...		
ECHG	YES	Input YES for Easy change
ITEM	CDEN SD or	The item is card density — changing to single-density
ITEM	CDEN DD or	The item is card density — changing to double-density
ITEM	CDEN 4D	The item is card density — changing to quad-density
If		Do
	you do not want to make any more changes to this telephone	step 13
	you want to make further changes to this telephone	step 2
4 Change the card density not using Easy change		
	> LD 10	
REQ	CHG	Requesting a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Loop/Superloop number, Shelf number, Card number, Unit number of the telephone. Use the space bar between each number and the next.
ECHG	NO	Input NO or
	<cr>	Carriage return since NO is default
CDEN	SD	Input the new card density: single-density
	DD	double-density
	4D	quad-density
— continued —		

Changing a basic dial telephone

STEP ACTION

4 continued ...

If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2

5 Change the designator using Easy change

> LD 10	
REQ CHG	Requesting a change to an existing telephone
TYPE 500	Dial or Digitone-type telephone
TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
ECHG YES	Input YES for Easy change
ITEM DES A . . A	Input DES followed by a space followed by the new designator code, represented by A..A — maximum of six alphanumeric characters

If	Do
you do not want to make any more changes to this telephone	step 13
you want to make further changes to this telephone	step 2

— continued —

Changing a basic dial telephone

STEP	ACTION	
6	Change the designator not using Easy change	
	> LD 10	
REQ	CHG	Requesting a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
ECHG	NO	Input NO or
	<cr>	Carriage return since NO is default
CDEN	<cr>	Carriage return until you see the DES prompt
DES		Input the new designator code up to a maximum of six alphanumeric characters
If		Do
	you do not want to make any more changes to this telephone	step 14
	you want to make further changes to this telephone	step 2
7	Change the Customer Group number using Easy change	
	> LD 10	
REQ	CHG	Requesting a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
ECHG	YES	Input YES for Easy change
ITEM	CUST XX	Input CUST followed by a space followed by the new Customer Group number, XX is 0–99
	— continued —	

Changing a basic dial telephone

STEP ACTION

7 continued ...

If	Do
you do not want to make any more changes to this telephone	step 13
you want to make further changes to this telephone	step 2

8 Change the Customer Group number not using Easy change

```
> LD 10
REQ  CHG      Requesting a change to an existing telephone
TYPE 500      Dial or Digitone-type telephone
TN   L S C U  Input the Loop/Superloop number, Shelf number,
              Card number, Unit number of the telephone. Use
              the space bar between each number and the
              next.
ECHG NO      Input NO or
              <cr> Carriage return since NO is default
CDEN <cr>    Carriage return until you see the CUST prompt
CUST XX      Input the new customer group number, XX is 0–
              99
```

If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2

— continued —

Changing a basic dial telephone

STEP	ACTION	
9	Change the DN using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone - enter spaces between each number and the next
		Input YES for Easy change
	ECHG YES	X..X represents the digits in the DN
	ITEM DN X..X	with DNXP software, 7 digit maximum without DNXP software, 4 digit maximum
	If	Do
	you do not want to make any more changes to this telephone	step 13
	you want to make further changes to this telephone	step 2
10	Change the DN not using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone - enter spaces between each number and the next
		Input NO or
	ECHG NO	Carriage return since NO is default
	<cr>	Carriage return until you see the DN prompt
	CDEN <cr>	X..X represents the digits in the DN
	DN X..X	
— continued —		

Changing a basic dial telephone

STEP ACTION

10 continued ...

If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2

11 Change from a dial to Digitone-type telephone using Easy change

> LD 10	
REQ CHG	Requesting a change to an existing telephone
TYPE 500	Dial or Digitone-type telephone
TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone - enter spaces between each number and the next
	Input YES for Easy change
ECHG YES	Input CLS followed by a space followed by DTN
ITEM CLS DTN	— Class of Service changed to Digitone



CAUTION

Talk to your system supplier about programming the digitone receiver units required for Digitone-type telephones.

— continued —

Changing a basic dial telephone

STEP ACTION

11 *continued ...*

If	Do
you do not want to make any more changes to this telephone	step 13
you want to make further changes to this telephone	step 2

12 **Change from a dial to Digitone-type telephone not using Easy change**

```

> LD 10
REQ  CHG           Requesting a change to an existing telephone
TYPE 500          Dial or Digitone-type telephone
TN   L S C U      Input the Loop/Superloop number, Shelf number,
                  Card number, Unit number of the telephone -
                  enter spaces between each number and the next
                  Input NO or
ECHG NO          Carriage return since NO is default
                  <cr>
                  Carriage return until you see the CLS prompt
CDEN <cr>        Input DTN — Digitone outpulsing
CLS  DTN

```



CAUTION

Talk to your system supplier about programming the digitone receiver units required for Digitone-type telephones.

— continued —

Changing a basic dial telephone

STEP ACTION

12 continued ...

If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2

13 Finish the overlay program.

ITEM <cr> Carriage return when you see the ITEM prompt again

You see one of the following messages:

U.data **P.data** small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 15.

14 Finish the overlay program.

Carriage return until you see one of the following messages:

U.data **P.data** small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

— continued —

Changing a basic dial telephone

STEP	ACTION	
15	Check the programming on the telephone which you have just programmed.	
	Printout the TN Block for the telephone. For more information, refer to <i>Basic programming instructions</i> in this book.	
	End LD 10 and go to LD 20	(pre-Release 19)
	or stay in LD 10	(Release 19 or later)
REQ	PRT	Request a printout
TYPE	TNB	TN Block
TN	L S C U	Input the L oop number, S helf number, C ard number, U nit number for the telephone you just programmed
	Carriage return for the remaining prompts	
	You get a printout of the data associated with the telephone.	
If	Do	
programming correct	step 16	
programming not correct	step 2	
16	Arrange for a data dump to be performed.	
If	Do	
you do not have access to LD 43	Contact your system supplier.	
you have access to LD 43	step 17	
— continued —		

Changing a basic dial telephone

STEP ACTION

- 17 Perform a data dump to permanently store the programming you have just completed.



CAUTION

Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module of this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

- 18 Verify that the data dump was successful.

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If

Do

data dump fails


Contact your system supplier.

data dump succeeds

step 19

— continued —

Changing a basic dial telephone

STEP	ACTION
19	Terminate this overlay program • ****
20	Terminate this programming session. Log off. > LOGO
21	You have completed the programming required to change a basic dial telephone.
	

Changing a basic Digitone-type telephone

Purpose

The information in this Task module will help you if a user on your site needs a change made to one of the basic parameters associated with an existing Digitone or Digitone-type telephone. The basic parameters that are covered in this module are listed below under *Basic configuration*.

Basic configuration



This Task module covers the following types of changes:

- ◆ line card density
- ◆ designator
- ◆ customer group
- ◆ Directory Number (DN)
- ◆ changing from a Digitone-type telephone to a dial telephone

If you are moving the telephone to a different TN in the system, refer to the *Moving a telephone* section in this book.

If you are replacing a Digitone-type telephone with a digital telephone, remove the Digitone-type telephone from the database first and then install the new digital telephone. Refer to the information in the *Removing a telephone* section and the information in the appropriate module in the *Making a telephone work* section for the digital telephone that you are installing. You will need the assistance of your system maintainer in order to change the line card for the telephone.

Changing a basic Digitone-type telephone

Default values

The overlay program you use for this task presents a series of programming mnemonics called prompts. The system presents these to the programmer in a particular sequence. When you are making a change to an existing telephone, you enter a response only to the prompt which applies to your change requirements.

A carriage return is also considered a response.

- ◆ When programming a new telephone, a carriage return after a prompt enters the default value as a response.
- ◆ When programming a change to an existing telephone, a carriage return after a certain prompt leaves, unchanged, the response that was already entered in the database.



Get a printout of the existing programming of the telephone before you begin your changes.

You can see from the printout what responses are already programmed for each prompt.

Look at the printout to decide what programming you need to do to implement the change.

Customer group

Most systems provide service to one group of users who belong to one company, organization or customer group. The telephones are assigned a customer group number for programming purposes.

If there is more than one customer group on your system, you must have a good understanding of what equipment belongs to each group.

When you change a telephone from one customer group to another, you might need to update other records you have.

Overlay program (LD) 15, the Customer Data Block, defines many customer-wide parameters. It is beyond the scope of this book to discuss this entire overlay program in detail. However, this book does describe programming which must be done in LD 15, if it is relevant to a telephone-related programming task.

Changing a basic Digitone-type telephone

The maintenance agreement you have with your system supplier probably specifies what programming you may do and what they must do. Check agreements of that nature before programming in the Customer Data Block yourself. It is assumed, in this book, that your system supplier carries out the programming in LD 15.

When telephones are installed they must be assigned to the correct customer group to operate properly. The step-action table at the end of this module tells you how to find out your customer group number, or you can ask your system supplier what it is. On a single-customer system the default customer group number is 0.

Directory Number (DN)

Directory Numbers (DNs) are the numbers assigned to the individual telephones. These are the numbers users dial to call each other.

DNs can be one to seven digits in length when the DN Expansion (DNXP) software package 150 is equipped on the system. Without DN Expansion, the DNs can be one to four digits.

Single Appearance or Multiple Appearance DNs

You must understand the following terms in order to change a DN.

The term *appearance* means that a DN has been assigned to a telephone or a key on a telephone.

Single Appearance DNs appear on only one telephone. A Single Appearance DN can only be configured to handle one call at a time.

Multiple Appearance DNs appear on more than one telephone, or more than one key on a telephone such as a digital telephone.

Refer to Task 40, *Multiple Appearance DN Redirection Prime* for important information on a Multiple Appearance DN feature. It is important that you understand this feature if you are changing the DN assigned to a telephone that has been designated as the prime appearance (or MARP) of a Multiple Appearance DN.

There are two configurations to choose from when dealing with Multiple Appearance DNs, Single Call and Multiple Call.

Changing a basic Digitone-type telephone

Single Call DN

The DN can handle one call at a time.

This means that when one person is using the DN, the indicator is lit steadily at other appearances of that DN on digital telephones or SL-1-type telephones.



Unless programmed otherwise, a Single Call configuration is the default configuration of a DN when it is programmed on a Digitone-type telephone.

If the same Single Call DN is shared between a Digitone-type telephone and an SL-1-type or digital telephone, there is no way to prevent a user from breaking in on an active call in progress on the shared DN.

If privacy is important, choose one of the following two options:

- ◆ do not assign the same Single Call DN to a Digitone-type telephone and an SL-1-type or digital telephone
- ◆ replace the Digitone-type telephone with an SL-1-type or digital telephone. There is privacy on shared Single Call DN's on these types of telephones.

Multiple Call DN

The DN can handle more than one call at a time.

This means that when one person is using the DN, the indicator is not lit at other appearances of that DN on digital telephones or SL-1-type telephones. These other appearances are available to receive additional calls, or can be used to make calls.

A Multiple Call DN is not treated as busy until there are calls on all the programmed appearances of the DN. There can be a maximum of 16 appearances of one DN on systems using software prior to Release 13; after that release there can be a maximum of 30 appearances of the same DN.

Your system might have memory constraints which prevent you from reaching the maximum numbers. Consult with your system supplier before you implement Multiple Appearance DN's.

Changing a basic Digitone-type telephone

Multiple Call Class of Service

When you want to make a DN on a Digitone-type telephone a Multiple Call DN, this is activated in the Class of Service.



With Release 15.58F software, the Multiple Call Class of Service is used along with the Centralized Multiple Line Emulation feature. Discuss the application of this feature with your supplier. It is beyond the scope of this book.

With Release 20 software, the Multiple Call Class of Service is used in conjunction with the use of Meridian COMPANION™ wireless telephones on your system.

Consistent configuration



Whether you choose Single Call or Multiple Call, all appearances of one DN must be the same configuration. You cannot have one appearance of a DN programmed as Single Call and another appearance of the same DN as Multiple Call. If you attempt to do that, you will see a Service Change Error message on your programming terminal.

The step-action table at the end of this module explains how to change a DN on a Digitone-type telephone.

Numbering Plan

Many systems have a carefully planned scheme for the use of numbers such as Directory Numbers (DNs), trunk-group access codes, and feature-access codes. This is called the Numbering Plan. It is used to record the numbers which are currently in use on a site and might also include numbers that are reserved for some future use. If, for example, you have reserved Direct-Inward-Dial (DID) telephone numbers with your telephone company for future use, it is important to record that in the Numbering Plan.

Changing a basic Digitone-type telephone

Careful planning is required in order to:

- ◆ prevent conflicts between numbers used for different purposes
- ◆ organize the use of numbers to help simplify the administration of the system
- ◆ ensure there will be enough available numbers to accommodate the foreseeable growth of the system

Keep a summary of the Numbering Plan on site. Before you make a change to the DN assigned to a telephone, familiarize yourself with the existing Numbering Plan. For more information on the Numbering Plan refer to the *Terms and abbreviations* module in this book.



DN-Block printout

If you need to know exactly what numbers are presently in use on your system, you can get a printout. You can use LD 22 for this on any system or, if you have Release 19 or later running on your system, you can use any one of LDs 10, 11, 20, 22, or 32. To get a printout of all the assigned DNs, you can request a DN-Block printout. This printout also includes trunk-group access codes which are currently in use. The step-action table at the end of this module shows you how to do this.

When you change the DN assigned to a Digitone-type telephone, look at your DN-Block printout or your Numbering Plan before you decide what new DN to assign. Update your records to indicate the DN which you are removing and the new DN you are assigning.

Terminal Number (TN)

Use programming to identify the physical location of every telephone in the hardware of the system. The physical location or address is composed of a Loop number, Shelf number, Card number, and Unit number. These numbers make up the Terminal Number (TN) of the telephone.

If you are using a system running with Release 15 or later software, it can be equipped with either loops or Superloops. If you are using a system with software prior to Release 15, the system can be equipped with only loops. Loops and Superloops belong in the Network Equipment part of the system.

Changing a basic Digitone-type telephone

If you are not sure what type(s) of Network Equipment you are using, ask your system supplier. They can also tell you about your shelf and card equipment.

Refer to the *You should know this* module for more information on the hardware of your system.

Before you can make a programming change to a telephone, you must know the TN assigned to it. There are a number of ways you can find out what TN has been assigned:

- ◆ ask your system maintainer what Terminal Number (TN) is assigned to the telephone
- ◆ ask if the telephone is labelled or the jack is labelled with the TN
- ◆ if you have access to the print programs, follow the print procedure in the step-action table in this module to find out what Terminal Number has been assigned to the telephone

If you are changing the TN associated with an existing telephone you can do one of the following:

- ◆ follow the instructions in Task 47, *Moving a telephone*
- ◆ remove the telephone from the existing TN by removing it from the programming and installing it as a new telephone at the other TN. Refer to the section called *Removing a telephone* and also the Task modules related to making a telephone work and adding and changing features

The disadvantages of using this method are:

- it is more time consuming than programming a move
- you risk making errors, since there is more programming involved
- ◆ ask your system maintainer if they prefer to interchange or move telephones by working on the cross-connect panel instead of using programming to do the change

Decide on the approach which best suits the situation.

Changing a basic Digitone-type telephone

Card density

Telephones are connected to interface cards in the system called line cards. There are three types of line cards for Digitone telephones: single-, double-, or quadruple-density.

Single-density line cards connect to a maximum of four telephones. Double-density line cards connect to a maximum of eight telephones. Quadruple (quad) density line cards connect to a maximum of sixteen telephones.

Systems using Superloops can use *intelligent* line cards. They are called intelligent because they possess microprocessors.

As of Release 20, double-density intelligent line cards are available for off-premises extensions. They connect to a maximum of eight telephones.

Quadruple-density intelligent line cards, connect to a maximum of 16 on-site Digitone-type telephones.

If the line card for an existing telephone is changing, the type of card may change to:

- ◆ a decreased density
- ◆ an increased density
- ◆ or the new card may have the same density as the old one



If the line card density is increasing and the Loop is not yet configured for the increase, your system maintainer has some programming changes to make to the Configuration Record prior to your programming. Coordinate the necessary programming with your system maintainer.

Designator (DES)

When you want printouts of the data associated with telephones you can request DN-Block and TN-Block printouts. Using only those printouts it might be difficult to identify each telephone specifically, especially if several telephones share the same DN. For example, you might find it easier if a department name prints out along with the other data.

Changing a basic Digitone-type telephone

With Office Data Administration System (ODAS) software equipped on a system, you can program each telephone in the database with a designator (DES) code.

The DES code can be a maximum of six alphanumeric characters.

You can use the designator to identify telephones in many different ways for your own purposes. Here are some suggestions:

- ◆ location in the building, for instance the floor number or room number
- ◆ cable pair
- ◆ telephone user's department, to be used for billing or inventory purposes
- ◆ user's name, although the name does not display when the user makes calls

Once the designators have been assigned, you can request printouts of telephones according to the DES codes you have assigned. For example:

- ◆ you might want to know what telephones are in a specific department so you can bill the department manager. You would request a printout of the telephones that share the same department identifier you assigned as the DES code for that department.
- ◆ you might have a group of telephones that share the same DN. If you want to move, change or remove one of them, you can print the telephone with the DES code that is specific to that telephone and find what TN is assigned to it.
- ◆ you can print the data for all the telephones that share a DN and use the DES codes to help you identify quickly which telephone is to moved, changed, or removed.

Check to see if you have a policy on assigning DES codes to telephones. If there is no policy in place, decide if DES codes can be of use to you. If not, you can enter any code you like when the prompt appears. On most systems you *must* enter a code in order for the next prompt to appear.

Changing a basic Digitone-type telephone

You can use the step-action table at the end of this module for help in assigning a DES code to a new telephone.

Class of Service (CLS)

When you replace a Digitone-type telephone with one that is a dial telephone, you should make a Class of Service change.

Dial telephones transmit pulses when calls are dialed. The Class of Service is dial pulse (DIP).

Digitone-type telephones transmit tones when keys on the keypad are pressed. The Class of Service is Digitone (DTN). The tones transmitted must be translated by digitone receiver (DTR) cards in the system for the call to be processed.

When a dial telephone is programmed with a DTN Class of Service in error, the system reserves a digitone receiver when the user initiates a call.

This adds a needless extra load to the digitone receivers and can impact the speed of obtaining dial tone at Digitone-type telephones. If many dial telephones have DTN programmed in the Class of Service this can result in extra digitone receivers being installed in your system. These extra cards have a cost associated with them. On certain systems the cards occupy card slot space and take up room on the shelves.

You can read about digitone receivers in the Peripheral Equipment part of the *You should know this* module in this guide.

Table 129
Default settings for outpulsing-type Class of Service

Release	Default
19 or 20	DTN
18 or earlier	DIP

Find out what release of software your system has and what your default setting is.

Get a printout of the programming associated with the telephone you are changing before you begin to make changes.

Changing a basic Digitone-type telephone

Improving performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.



If you are changing many Digitone-type telephones to dial telephones, your system supplier should calculate the proper number of digitone receiver cards required for the number of Digitone-type telephones that will remain. Discuss this issue with them.

Control tips



- ◆ If you are using a Call Detail Recording system to track and bill calls made by users, any new DNs must be entered into the database for that system. DNs which are no longer used should be removed.

Administration tips



- ◆ If you are changing the DN of a telephone:
 - prepare changes to directories in advance
 - notify people (both internal and external) of the change
 - alter business cards and other forms of advertising, such as FAX cover sheets, coincident with the change to the DN
 - prepare the attendant(s) when a user's DN changes
- ◆ If you are changing the customer group or DES code assigned to a telephone, assess the impact this will have on your billing system. Prepare the change to that system or to your records, in advance.

Changing a basic Digitone-type telephone

Training tips



- ◆ A user who is changing from a Digitone-type telephone to a dial telephone will have to learn new feature access codes if they were trained to use the easy Digitone-type feature codes. Training helps the user learn the new codes. You might not want to change a telephone from Digitone-type to dial if the user could have difficulty with the more difficult dial access feature codes.
- ◆ If a telephone changes from one customer group to another, the user might need training on a different dialing plan and different telephony-related procedures.

What to have ready

The following checklist summarizes the steps you should take before making basic changes to an existing Digitone-type telephone.

Table 130
Checklist

Basic	Optional	Preparation
✓		Find out the TN which is assigned to this telephone.
✓		If the customer group is changing, determine the new customer group number.
✓		If the line card density is changing, find out the density of the new line card for the telephone.
✓		If the line card density is increasing, arrange with your system supplier to make Configuration Record changes, if required.
✓		If the DES code is changing, decide what new alphanumeric characters (up to six) you want to use as a designator code.
✓		If the DN is changing, according to the Numbering Plan on your site and the needs of the user, decide on the new DN.
— continued —		

Changing a basic Digitone-type telephone

Table 130
Checklist (Continued)

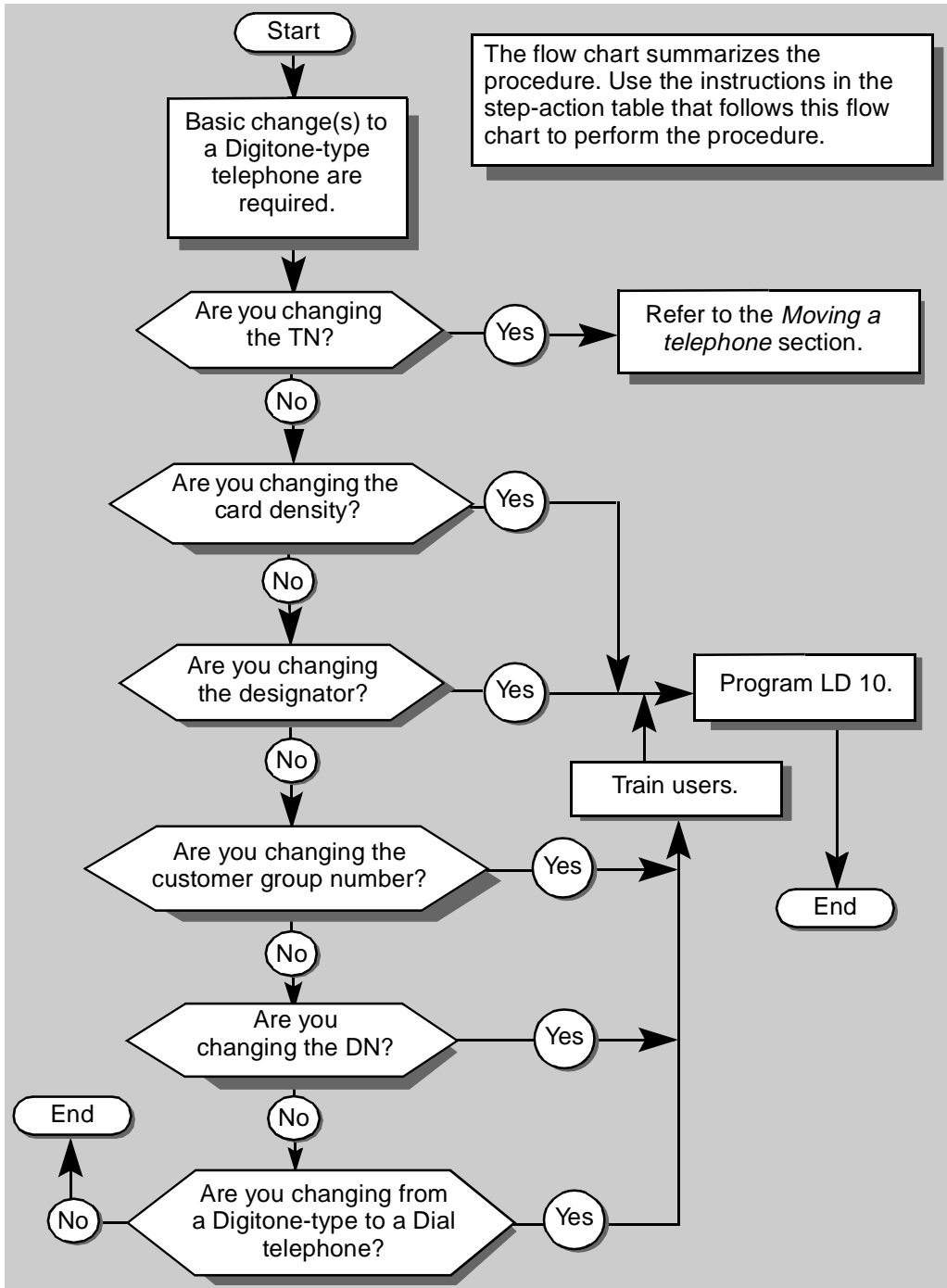
Basic	Optional	Preparation
✓		If the DN is changing, order changes to business cards, FAX cover sheets, directories.
✓		If the DN is changing, make changes to CDR systems, or billing systems.
✓		If you are changing many telephones from a Digitone-type to dial, discuss the new DTR requirements with your system supplier.
✓		If the telephone is changing to dial, prepare training aids and do training about the new feature codes.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. Use it to do the programming steps necessary for basic programming changes to a Digitone-type telephone.

Changing a basic Digitone-type telephone



Changing a basic Digitone-type telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to making changes to the basic programming of a Digitone-type telephone only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION	
1	Log in.
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.
2	Choose the starting point in this procedure that applies to the change you want to make to the telephone.
If	Do
changing TN	See the <i>Moving a telephone</i> section in this book.
changing card density using Easy change	step 3
changing card density not using Easy change	step 4
changing designator using Easy change	step 5
changing designator not using Easy change	step 6
changing customer group number using Easy change	step 7
— continued —	

Changing a basic Digitone-type telephone

STEP ACTION

2 continued ...

changing customer group number not using Easy change	step 8
changing DN using Easy change	step 9
changing DN not using Easy change	step 10
changing from Digitone-type to dial telephone using Easy change	step 11
changing from Digitone-type to dial telephone not using Easy change	step 12

3 Change the card density using Easy change



CAUTION

If the card density is changing to a higher density type, the loop must be properly configured beforehand. Ask your system supplier to program LD 17 if required.

> LD 10

REQ	CHG	Requesting a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Loop/Superloop number, Shelf number, Card number, Unit number of the telephone. Use the space bar between each number and the next.

— continued —

Changing a basic Digitone-type telephone

STEP ACTION

3 *continued ...*

ECHG	YES	Input YES for Easy change
ITEM	CDEN SD or	The item is card density — changing to single-density
ITEM	CDEN DD or	The item is card density — changing to double-density
ITEM	CDEN 4D	The item is card density — changing to quad-density

If	Do
you do not want to make any more changes to this telephone	step 13
you want to make further changes to this telephone	step 2

4 Change the card density not using Easy change

>	LD 10	
REQ	CHG	Requesting a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
ECHG	NO	Input NO or
	<cr>	Carriage return since NO is default
CDEN	SD	Input the new card density: single-density
	DD	double-density
	4D	quad-density

— continued —

Changing a basic Digitone-type telephone

STEP	ACTION	
4 continued ...		
	If	Do

	you do not want to make any more changes to this telephone	step 14
	you want to make further changes to this telephone	step 2
5 Change the designator using Easy change		
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG YES	Input YES for Easy change
	ITEM DES A..A	Input DES followed by a space followed by the new designator code, represented by A..A — maximum of six alphanumeric characters
	If	Do

	you do not want to make any more changes to this telephone	step 13
	you want to make further changes to this telephone	step 2
— continued —		

Changing a basic Digitone-type telephone

STEP	ACTION	
6	Change the designator not using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG NO	Input NO or
	<cr>	Carriage return since NO is default
	CDEN <cr>	Carriage return until you see the DES prompt
	DES A..A	Input the new designator code, represented by A..A - up to a maximum of six alphanumeric characters
	If	Do
	you do not want to make any more changes to this telephone	step 14
	you want to make further changes to this telephone	step 2
7	Change the customer group number using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG YES	Input YES for Easy change
	ITEM CUST XX	Input CUST followed by a space followed by the new Customer Group number, XX is 0–99
	— continued —	

Changing a basic Digitone-type telephone

STEP	ACTION	
7 continued ...		
	If	Do


	you do not want to make any more changes to this telephone	step 13
	you want to make further changes to this telephone	step 2
8	Change the customer group number not using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG NO	Input NO or
	<cr>	Carriage return since NO is default
	CDEN <cr>	Carriage return until you see the CUST prompt
	CUST XX	Input the new customer group number, XX is 0–99
	If	Do

	you do not want to make any more changes to this telephone	step 14
	you want to make further changes to this telephone	step 2
— continued —		

Changing a basic Digitone-type telephone

STEP	ACTION	
9	Change the DN using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone - enter spaces between each number and the next
		Input YES for Easy change
	ECHG YES	X..X represents the digits in the DN
	ITEM DN X..X	with DNXP software, 7 digit maximum without DNXP software, 4 digit maximum
	If	Do
	you do not want to make any more changes to this telephone	step 13
	you want to make further changes to this telephone	step 2
10	Change the DN not using Easy change	
	> LD 10	
	REQ CHG	Requesting a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone — enter spaces between each number and the next
		Input NO or
	ECHG NO	Carriage return since NO is default
	<cr>	Carriage return until you see the DN prompt
	CDEN <cr>	X..X represents the digits in the DN
	DN X..X	
— continued —		

Changing a basic Digitone-type telephone

STEP	ACTION
10 continued ...	
If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2
11 Change from a Digitone-type to a dial telephone using Easy change	
> LD 10	
REQ CHG	
TYPE 500	Requesting a change to an existing telephone
TN L S C U	Dial or Digitone-type telephone
	Input the L oop/Superloop number, S helf number, C ard number, U nit number of the telephone
ECHG YES	
ITEM CLS DIP	Input YES for Easy change
	Input CLS followed by a space followed by DIP— Class of Service changed to dial pulse
<div style="border: 2px solid black; padding: 10px; display: inline-block;">  <p>CAUTION Talk to your system supplier about whether you can reduce the number of digitone receiver units required for the remaining Digitone-type telephones.</p> </div>	
— continued —	

Changing a basic Digitone-type telephone

STEP ACTION

11 continued ...

If	Do
you do not want to make any more changes to this telephone	step 13
you want to make further changes to this telephone	step 2

12 Change from a Digitone-type to a dial telephone not using Easy change

> LD 10	
REQ CHG	Requesting a change to an existing telephone
TYPE 500	Dial or Digitone-type telephone
TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone
ECHG NO	Input NO or
<cr>	Carriage return since NO is default
CDEN <cr>	Carriage return until you see the CLS prompt
CLS DIP	Input DIP — dial pulse



CAUTION

Talk to your system supplier about whether you can reduce the number of digitone receiver units required for the remaining Digitone-type telephones.

— continued —

Changing a basic Digitone-type telephone

STEP	ACTION
<i>12 continued ...</i>	
If	Do
you do not want to make any more changes to this telephone	step 14
you want to make further changes to this telephone	step 2
13	Finish the overlay program.
ITEM <cr>	Carriage return when you see the ITEM prompt again
You see one of the following messages:	
U.data P.data	small systems
or	
MEM AVAIL: (U/P) USED:TOT:	large systems
When one of these messages appears, your change has been entered into the memory.	
Go to step 15.	
14	Finish the overlay program.
Carriage return until you see one of the following messages:	
U.data P.data	small systems
or	
MEM AVAIL: (U/P) USED:TOT:	large systems
When one of these messages appears, your change has been entered into the memory.	
— continued —	


Changing a basic Digitone-type telephone

STEP	ACTION	
15	Check the programming on the telephone which you have just programmed.	
	Printout the TN Block for the telephone. For more information, refer to <i>Basic programming instructions</i> in this book.	
	End LD 10 and go to LD 20	(pre-Release 19)
	or stay in LD 10	(Release 19 or later)
	REQ	PRT Request a printout
	TYPE	TNB TN Block
	TN	L S C U Input the L oop number, S helf number, C ard number, U nit number for the telephone you just programmed
	Carriage return for the remaining prompts You get a printout of the data associated with the telephone.	
	If	Do


	Programming correct	step 16
	Programming not correct	step 2
16	Arrange for a data dump to be performed.	
	If	Do

	you do not have access to LD 43	Contact your system supplier.
	you have access to LD 43	step 17
	— continued —	

Changing a basic Digitone-type telephone

STEP	ACTION						
17	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module of this book or refer to the <i>Software Input /Output Guide Book 1 of 2</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
18	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 19</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 19
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 19						

Changing a basic Digitone-type telephone

STEP	ACTION
19	Terminate this overlay program • ****
20	Terminate this programming session. Log off. > LOGO
21	You have completed the programming required to change a basic Digitone-type telephone.
	

848 Changing the basics

of 1776

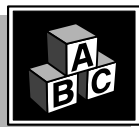
Changing a basic Digitone-type telephone

Changing a basic digital telephone

Purpose

The information in this Task module will help you if a user on your site needs a change made to one of the basic parameters associated with an existing digital telephone. The basic parameters that are covered in this module are listed below under *Basic configuration*.

Basic configuration



This Task module covers the following types of changes:

- ◆ line card density
- ◆ designator
- ◆ customer group
- ◆ Directory Number (DN)
- ◆ Multiple Call or Single Call status
- ◆ ringing or non-ringing status
- ◆ telephone model

If you are moving the telephone to a different TN in the system, refer to the *Moving a telephone* section in this book.

If you are replacing a digital telephone with a Digitone-type telephone, remove the digital telephone from the database first and then install the new Digitone-type telephone. Refer to the information in the *Removing a telephone* section and the information in the appropriate module in the *Programming a new basic telephone* section for the Digitone-type telephone that you are installing. You will need the assistance of your system maintainer in order to change the line card for the telephone.

Changing a basic digital telephone

Default values

The overlay program you use for this task presents a series of programming mnemonics called prompts. The system presents these to the programmer in a particular sequence. When you are making a change to an existing telephone, you enter a response only to the prompt which applies to your change requirements.

A carriage return is also considered a response.

- ◆ When programming a new telephone, a carriage return after a prompt enters the default value as a response.
- ◆ When programming a change to an existing telephone, a carriage return after a certain prompt leaves, unchanged, the response that was already entered in the database.



Get a printout of the existing programming of the telephone before you begin your changes.

You can see from the printout what responses are already programmed for each prompt.

Look at the printout to decide what programming you need to do to implement the change.

Customer group

Most systems provide service to one group of users who belong to one company, organization or customer group. The telephones are assigned a customer group number for programming purposes.

If there is more than one customer group on your system, you must have a good understanding of what equipment belongs to each group.

When you change a telephone from one customer group to another, you might need to update other records you have.

Overlay program (LD) 15, the Customer Data Block, defines many customer-wide parameters. It is beyond the scope of this book to discuss this entire overlay program in detail. However, this book does describe programming which must be done in LD 15, if it is relevant to a telephone-related programming task.

Changing a basic digital telephone

The maintenance agreement you have with your system supplier probably specifies what programming you may do and what they must do. Check agreements of that nature before programming in the Customer Data Block yourself. It is assumed, in this book, that your system supplier carries out the programming in LD 15.

When telephones are installed they must be assigned to the correct customer group to operate properly. The step-action table at the end of this module tells you how to find out your customer group number, or you can ask your system supplier what it is. On a single-customer system the default customer group number is 0.

Directory Number (DN)

Directory Numbers (DNs) are the numbers assigned to the individual telephones. These are the numbers users dial to call each other.

DNs can be one to seven digits in length when the DN Expansion (DNXP) software package 150 is equipped on the system. Without DN Expansion, the DNs can be one to four digits.

Ringling or Non-ringling DNs

A DN can be programmed to be a ringling or a non-ringling appearance, on digital telephones.

- ◆ When a call comes into a ringling appearance, the telephone rings, if it is idle, and the indicator beside the DN key flashes.
- ◆ When a call comes into a non-ringling appearance of a DN, the DN-key indicator flashes but the telephone does not ring.

You can program a change to the ringling state of a DN key. There are instructions in the step-action table at the end of this Task module.

Single Appearance or Multiple Appearance DNs

You must understand the following terms in order to change a DN.

The term *appearance* means that a DN has been assigned to a telephone or a key on a telephone.

Changing a basic digital telephone

Single Appearance DNs appear on only one telephone. A Single Appearance DN can only be configured to handle one call at a time. This is referred to as a *Single Call DN*.

Multiple Appearance DNs appear on more than one telephone, or more than one key on a telephone such as a digital telephone.

Refer to Task 40, *Multiple Appearance DN Redirection Prime* for important information on a Multiple Appearance DN feature. It is important that you understand this feature if you are changing the DN assigned to a telephone that has been designated as the prime appearance (or MARP) of a Multiple Appearance DN.

There are two configurations to choose from when dealing with Multiple Appearance DNs, Single Call and Multiple Call.

Single Call DN

The DN can handle one call at a time.

This means that when one person is using the DN, the indicator is lit steadily at other appearances of that DN on digital telephones or SL-1-type telephones.

If the same Single Call DN is shared between a Digitone-type or dial telephone and an SL-1-type or digital telephone, there is no way to prevent a user from breaking in on an active call on the shared DN.

If privacy is important, choose one of the following two options:

- ◆ do not assign the same Single Call DN to a Digitone-type or dial telephone and an SL-1-type or digital telephone
- ◆ replace the Digitone-type or dial telephone with an SL-1-type or digital telephone. There is privacy on shared Single Call DNs on these types of telephones.

Changing a basic digital telephone

Multiple Call DN

The DN can handle more than one call at a time.

This means that when one person is using the DN, the indicator is not lit at other appearances of that DN on digital telephones or SL-1-type telephones. These other appearances are available to receive additional calls, or can be used to make calls.

A Multiple Call DN is not treated as busy until there are calls on all the programmed appearances of the DN.

There can be a maximum of 16 appearances of one DN on systems using software prior to Release 13; after that release there can be a maximum of 30 appearances of the same DN.

Your system might have memory constraints which prevent you from reaching the maximum numbers. Consult with your system supplier before you implement Multiple Appearance DNs.



Consistent configuration

Whether you choose Single Call or Multiple Call, all appearances of one DN must be the same configuration. You cannot have one appearance of a DN programmed as Single Call and another appearance of the same DN as Multiple Call. If you attempt to do that, you will see a Service Change Error message on your programming terminal.

If there are two telephones that have appearances of the same DN, and you want to change the DN from a Single Call arrangement to a Multiple Call arrangement, you will have to do one of the following things to avoid getting a Service Change Error message:

- ◆ remove the second telephone from the database temporarily so that the first telephone can be changed to a Multiple Call arrangement with no conflict. Program the change to the DN key of the first telephone. Add the second telephone to the database again, this time programming the DN as a Multiple Call DN.

Changing a basic digital telephone

- ◆ change the DN on the key of the second telephone to some fictitious DN temporarily. Change the DN on the key of the first telephone to a Multiple Call arrangement. Change the DN on the key of the second telephone to the old DN again, but this time make it a Multiple Call arrangement.

Follow the preceding procedure if the two telephones share the same Multiple Call DN and they are changing to a shared Single Call DN. The exception is wherever it says Multiple Call arrangement, substitute Single Call arrangement.

Try to do these changes after normal working hours to cause minimal disruption to callers.

The step-action table at the end of this module explains how to change a DN on a key of a digital telephone. It also explains how to change a Single Call DN to a Multiple Call DN and vice versa.

Numbering Plan

Many systems have a carefully planned scheme for the use of numbers such as Directory Numbers (DNs), trunk-group access codes, and feature-access codes. This is called the Numbering Plan. It is used to record the numbers which are currently in use on a site and might also include numbers that are reserved for some future use. If, for example, you have reserved Direct-Inward-Dial (DID) telephone numbers with your telephone company for future use, it is important to record that in the Numbering Plan.

Careful planning is required in order to:

- ◆ prevent conflicts between numbers used for different purposes
- ◆ organize the use of numbers to help simplify the administration of the system
- ◆ ensure there will be enough available numbers to accommodate the foreseeable growth of the system

Keep a summary of the Numbering Plan on site. Before you make a change to the DN assigned to a telephone, familiarize yourself with the existing Numbering Plan. For more information on the Numbering Plan refer to the *Terms and abbreviations* module in this book.

Changing a basic digital telephone



DN-Block printout

If you need to know exactly what numbers are presently in use on your system, you can get a printout. You can use LD 22 for this on any system or, if you have Release 19 or later running on your system, you can use any one of LDs 10, 11, 20, 22, or 32. To get a printout of all the assigned DNs, you can request a DN-Block printout. This printout also includes trunk-group access codes which are currently in use. The step-action table at the end of this module shows you how to do this.

When you change the DN assigned to a digital telephone, look at your DN-Block printout or your Numbering Plan before you decide what new DN to assign. Update your records to indicate the DN which you are removing and the new DN you are assigning.

Terminal Number (TN)

Use programming to identify the physical location of every telephone in the hardware of the system. The physical location or address is composed of a Loop number, Shelf number, Card number, and Unit number. These numbers make up the Terminal Number (TN) of the telephone.

If you are using a system running with Release 15 or later software, it can be equipped with either loops or Superloops. If you are using a system with software prior to Release 15, the system can be equipped with only loops. Loops and Superloops belong in the Network Equipment part of the system.

If you are not sure what type(s) of Network Equipment you are using, ask your system supplier. They can also tell you about your shelf and card equipment.

Refer to the *You should know this* module for more information on the hardware of your system.

Changing a basic digital telephone

Before you can make a programming change to a telephone, you must know the TN assigned to it. There are a number of ways you can find out what TN has been assigned:

- ◆ ask your system maintainer what Terminal Number (TN) is assigned to the telephone
- ◆ ask if the telephone is labelled or the jack is labelled with the TN
- ◆ if you have access to the print programs, follow the print procedure in the step-action table in this module to find out what Terminal Number has been assigned to the telephone

If you are changing the TN associated with an existing telephone you can do one of the following things:

- ◆ follow the instructions in , *Moving a telephone*
- ◆ remove the telephone from the existing TN by taking it out in programming and installing it as a new telephone at the other TN. Refer to the module called *Removing a telephone* and also the Task modules related to *Making a telephone work* and *Adding and changing features*. The disadvantages of using this method are:
 - it is more time consuming than programming a move
 - there is more programming involved, therefore you risk making errors
- ◆ ask your system maintainer if the wiring in the cross-connect panel can be changed instead of using programming to do the TN change

Decide on the approach which best suits the situation.

Card density

Telephones are connected to interface cards in the system called line cards. Line cards for digital telephones come in two varieties: quadruple-density and octal-density.

Quadruple (quad) density digital line cards have 16 TNs. Eight of the TNs on the card are for digital telephones and the other eight are for the associated data terminals (if any). Therefore, quad density digital line cards connect to a maximum of eight digital telephones.

Changing a basic digital telephone

Systems using Superloops can use *intelligent* line cards. They are called intelligent because they possess microprocessors. These are octal-density.

Octal-density digital line cards have 32 TNs. Sixteen of the TNs on the card are for digital telephones and the other sixteen are for the associated data terminals (if any). Therefore, octal-density digital line cards connect to a maximum of sixteen digital telephones.

When you program digital telephones, you do not need to tell the system what density the digital telephone line card is, since it defaults to the density allowed for the network loop or Superloop on which the telephone resides.

If you want to change the density of the card to which the digital telephone is connected, physical work must be done to change the Network Equipment (loop or Superloop) card as well as programming. All of this is beyond the scope of this book. Your system supplier will perform these tasks.

Designator (DES)

When you want printouts of the data associated with telephones you can request DN-Block and TN-Block printouts. Using only those printouts it might be difficult to identify each telephone specifically, especially if several telephones share the same DN. For example, you might find it easier if a department name prints out along with the other data.

With Office Data Administration System (ODAS) software equipped on a system, you can program each telephone in the database with a designator (DES) code.

The DES code can be a maximum of six alphanumeric characters.

You can use the designator to identify telephones in many different ways for your own purposes. Here are some suggestions:

- ◆ location in the building, for instance the floor number or room number
- ◆ cable pair

Changing a basic digital telephone

- ◆ telephone user's department, to be used for billing or inventory purposes
- ◆ user's name, although the name does not display when the user makes calls

Once the designators have been assigned, you can request printouts of telephones according to the DES codes you have assigned. For example:

- ◆ you might want to know what telephones are in a specific department so you can bill the department manager. Request a printout of the telephones that share the same department identifier you assigned as the DES code for that department.
- ◆ you might have a group of telephones that share the same DN. If you want to move, change or remove one of them, you can print the telephone with the DES code that is specific to that telephone and find what TN is assigned to it.
- ◆ you can print the data for all the telephones that share a DN and use the DES codes to help you identify quickly which telephone is to be moved, changed, or removed.

Check to see if you have a policy on assigning DES codes to telephones. If there is no policy in place, decide if DES codes can be of use to you. If not, you can enter any code you like when the prompt appears. On most systems you *must* enter a code in order for the next prompt to appear.

You can use the step-action table at the end of this module for help in changing a DES code.

Telephone type

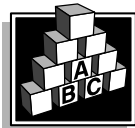
If a user is changing from one type of digital telephone to another type of digital or analog telephone you should remove the original telephone from the database and install the replacement telephone as a new telephone. This type of change cannot be done by using the change command in programming. Refer to the instructions in the *Removing a telephone* section and the *Making a telephone work* section for assistance.

Changing a basic digital telephone

- ◆ If the user is changing from a digital telephone to an analog dial or Digitone-type telephone, you will need the assistance of your system supplier. The telephone must be connected to a different line card in the system and re-programmed in software.
- ◆ If the user is changing from one type of digital telephone to another you will have to check whether the existing line card is appropriate. This can be an issue if the user is changing from an M2317 to an M2006, M2008, M2216ACD, or M2616.

You will also have to take into consideration the number of keys on the telephone that you are removing and the number of keys on the telephone you are installing. If there is a reduced number of keys on the new telephone, you will have to find out what features and/or DNs you can program on the new telephone. (Consider that there are some features that the user can dial access if you run out of keys. One of the most common features to dial access is Call Pickup). If you need help, discuss this further with your system supplier.

Improving performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Ringing options

There are four different ringing options for the digital telephones. When you program the Class of Service of each telephone, choose one of the four options to set the ringing tone and ringing cadence. The choices are: DRG1, DRG2, DRG3, or DRG4. DRG stands for Distinctive Ringing Group. Ask your system supplier to help you if you want to change the ringing option for a telephone.

Language options

There are two language options for the presentation of words on the display. The default language option in the Class of Service programming is French. You can choose English if you prefer.

Changing a basic digital telephone

You can also program key 29 to allow the user to toggle between the two languages. Key 29 coincides with the key under the display which is farthest to the right.

Ask your system supplier to help you if you want to change the language option for a telephone.

Digitone receivers (DTRs)

If you are changing many digital telephones to Digitone-type, your system supplier should calculate the proper number of digitone receiver cards required for the number of Digitone-type telephones that you will need. Discuss this issue with them.



Control tips



- ◆ If you are using a Call Detail Recording system to track and bill calls made by users, any new DNs must be entered into the database for that system. DNs which are no longer used should be removed.

Administration tips



- ◆ If you are changing the DN of a telephone:
 - prepare changes to directories in advance
 - notify people (both internal and external) of the change
 - alter business cards and other forms of advertising, such as FAX cover sheets, coincident with the change to the DN
 - prepare the attendant(s) when a user's DN changes
- ◆ If you are changing the customer group or DES code assigned to a telephone, assess the impact this will have on your billing system. Prepare the change to that system or to your records, in advance.

Changing a basic digital telephone

Training tips



- ◆ A user who is changing from a digital telephone to a dial or Digitone-type telephone will have to learn to use feature access codes. Training helps the user learn the new codes. You might not want to change a telephone from digital to dial or Digitone-type if the user will have difficulty with the feature access codes.
- ◆ If a telephone changes from one customer group to another, the user might need training on a different dialing plan and different telephony-related procedures.

What to have ready

The following checklist summarizes the steps you should take before making basic changes to an existing digital telephone.

Table 131
Checklist

Basic	Optional	Preparation
✓		Find out the TN which is assigned to this telephone.
✓		If the customer group is changing, determine the new customer group number. Prepare information for the user about the new Numbering Plan or feature access codes associated with the new customer group.
✓		If the DES code is changing, decide what new code you will assign.
✓		If the DN is changing, decide on the new DN according to the Numbering Plan on your site.
✓		If the DN is changing from Multiple Call to Single Call, (or vice versa), get DNB and TNB printouts of any other telephones with appearances of the same DN. Prepare to reprogram them as well.
— continued —		

Changing a basic digital telephone

Table 131
Checklist (Continued)

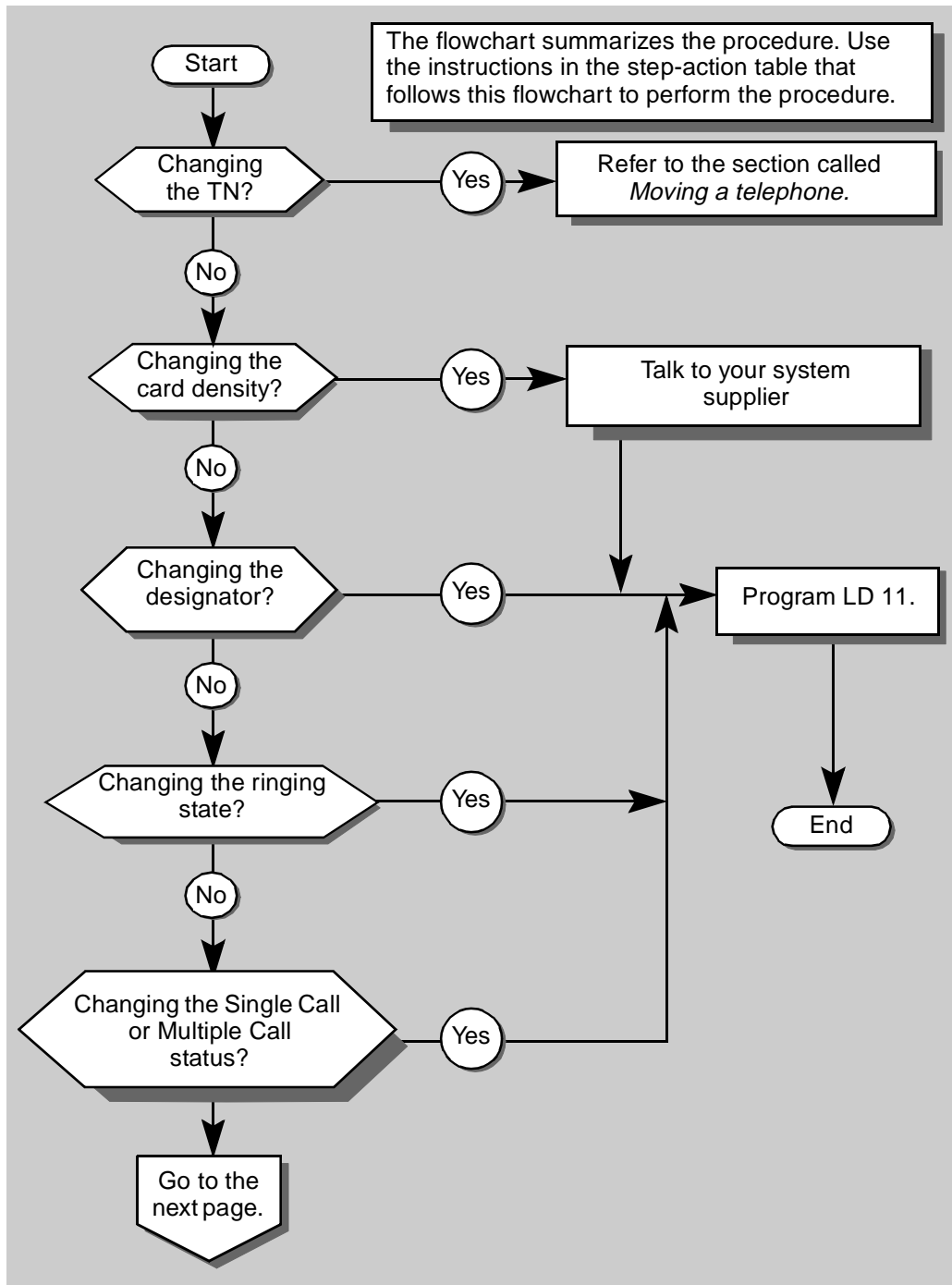
Basic	Optional	Preparation
✓		If you are changing many telephones from digital to Digitone-type, discuss the new DTR requirements with your system supplier.
✓		If the telephone is changing to dial or Digitone-type, prepare training aids and do training about the new feature access codes.
	✓	If the DN is changing, make changes to business cards, FAX cover sheets, and directories as required.
	✓	If the DN or customer group is changing, make changes to your records for CDR systems, or billing systems.

What's next?

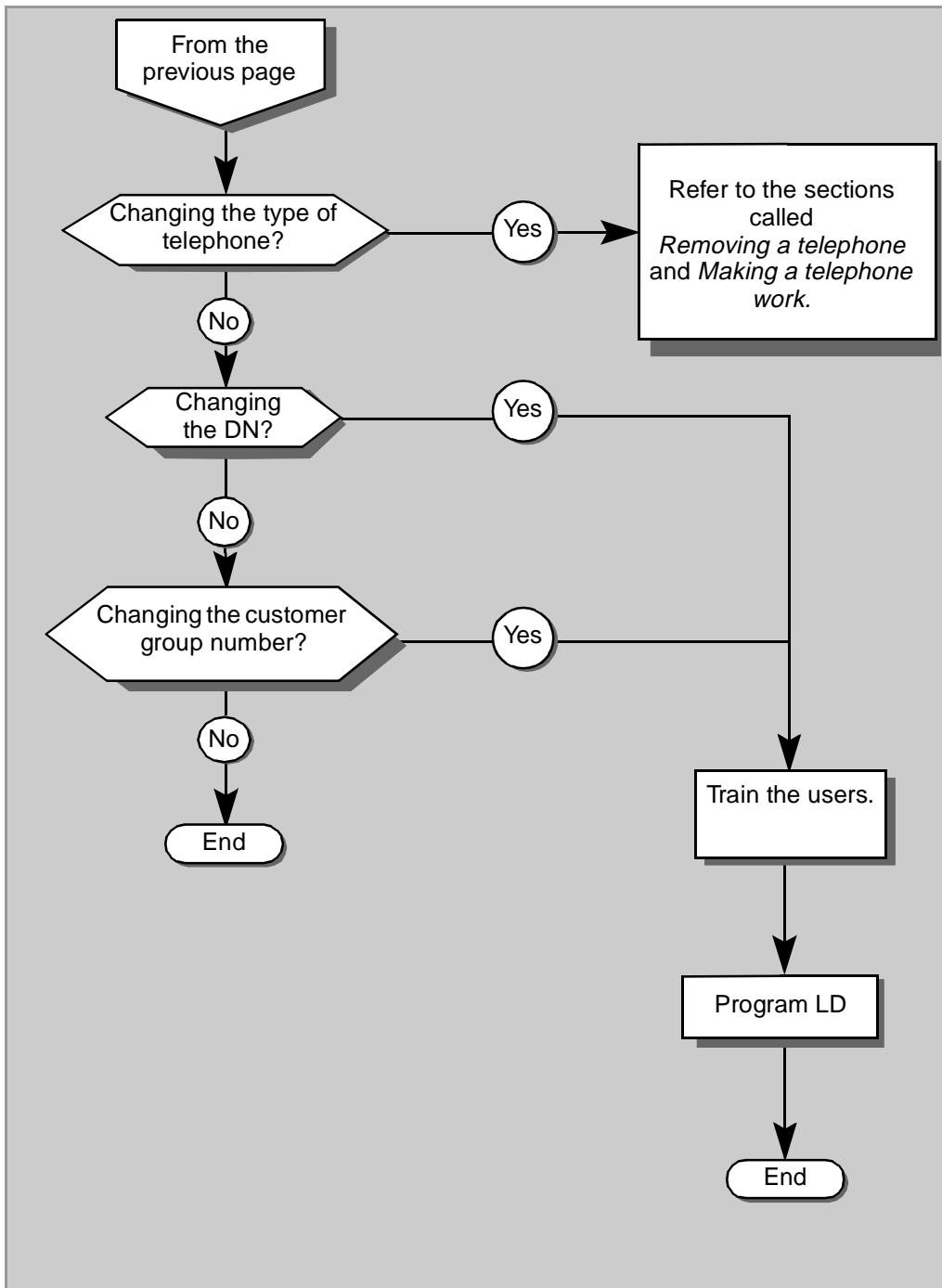
A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. Use it to do the programming steps necessary for basic programming changes to a digital telephone.

Changing a basic digital telephone



Changing a basic digital telephone



Changing a basic digital telephone

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to making changes to the basic programming of a digital telephone only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION														
1	Log in.														
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.														
2	Choose the starting point in this procedure that applies to the change you want to make to the telephone.														
	<table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>changing TN</td> <td>Refer to the section called <i>Moving a telephone</i>.</td> </tr> <tr> <td>changing card density</td> <td>Ask your system supplier to do this. It is beyond the scope of this book.</td> </tr> <tr> <td>changing designator using Easy change</td> <td>step 3</td> </tr> <tr> <td>changing designator not using Easy change</td> <td>step 4</td> </tr> <tr> <td>changing customer group number using Easy Change</td> <td>step 5</td> </tr> <tr> <td>changing customer group number not using Easy change</td> <td>step 6</td> </tr> </tbody> </table>	If	Do	changing TN	Refer to the section called <i>Moving a telephone</i> .	changing card density	Ask your system supplier to do this. It is beyond the scope of this book.	changing designator using Easy change	step 3	changing designator not using Easy change	step 4	changing customer group number using Easy Change	step 5	changing customer group number not using Easy change	step 6
If	Do														
changing TN	Refer to the section called <i>Moving a telephone</i> .														
changing card density	Ask your system supplier to do this. It is beyond the scope of this book.														
changing designator using Easy change	step 3														
changing designator not using Easy change	step 4														
changing customer group number using Easy Change	step 5														
changing customer group number not using Easy change	step 6														
— continued —															

Changing a basic digital telephone

STEP	ACTION	
2 continued ...		
	changing Multiple Call / Single Call DN key status using Easy Change	step 7
	changing Multiple Call / Single Call DN key status not using Easy Change	step 7
	changing ringing or non-ringing DN key status using Easy Change	step 7
	changing ringing or non-ringing DN key status not using Easy Change	step 7
	changing DN using Easy change	step 7
	changing DN not using Easy change	step 7
	changing model of digital telephone	Refer to the sections called <i>Removing a telephone</i> and <i>Making a telephone work</i> .
	changing from digital to dial or Digitone-type	Refer to the sections called <i>Removing a telephone</i> and <i>Making a telephone work</i> .
3	Change the designator using Easy Change.	
	> LD 11	
	REQ CHG	Requesting a change to an existing telephone
	TYPE	Enter the correct type of digital telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG YES	Input YES for Easy change
	ITEM DES A..A	Input the new designator code, represented by A..A — maximum of six alphanumeric characters
	— continued —	

Changing a basic digital telephone

STEP	ACTION	
3 continued ...		
	If	Do
	
	you do not want to make any more changes to this telephone	step 9
	you want to make further changes to this telephone	step 2
4	Change the designator not using Easy Change.	
	> LD 11	
	REQ CHG	Requesting a change to an existing telephone
	TYPE	Input the correct type of digital telephone
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next
	ECHG NO	Input NO or
	<cr>	Carriage return since NO is default
	CDEN <cr>	Carriage return until you see the DES prompt
	DES A..A	Input the new designator code, represented by A..A – maximum of six alphanumeric characters
	If	Do
	
	you do not want to make any more changes to this telephone	step 10
	you want to make further changes to this telephone	step 2
— continued —		

Changing a basic digital telephone

STEP	ACTION	
5	Change the customer group number using Easy change.	
	> LD 11	
	REQ CHG	Requesting a change to an existing telephone
	TYPE	Input the correct type of digital telephone.
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG YES	Input YES for Easy change
	ITEM CUST XX	Input CUST followed by a space followed by the new customer group number, represented by XX
		XX is 0–99
	If	Do

	you do not want to make any more changes to this telephone	step 9
	you want to make further changes to this telephone	step 2
— continued —		

Changing a basic digital telephone

STEP	ACTION	
6	Change the customer group number not using Easy Change	
	> LD 11	
	REQ CHG	Requesting a change to an existing telephone
	TYPE	Input the correct type of digital telephone.
	TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
	ECHG NO	Input NO or
	<cr>	Carriage return since NO is default
	CDEN <cr>	Carriage return until you see the CUST prompt
	CUST XX	Input the new customer group number, XX is 0–99
	If	Do
	you do not want to make any more changes to this telephone	step 10
	you want to make further changes to this telephone	step 2
— continued —		

Changing a basic digital telephone

STEP	ACTION
7	<p>Change the DN or the Single Call/Multiple Call and ringing/non-ringing status of a DN using Easy Change.</p> <p>If there are other appearances of the DN you are changing, you must have a consistent Single Call/ Multiple Call status for all appearances. Refer to the earlier part in this module called <i>Consistent configuration</i> for information you will need before you make the change.</p> <p>If this telephone is the Multiple Appearance DN Redirection Prime (MARP) for the DN you are changing, refer to Task 40, <i>Multiple Appearance DN Redirection Prime</i> for assistance in understanding the messages that you will see when you change the DN. Decide what telephone you want to program as the MARP before you make the change to this telephone. Use the instructions in the step-action table in Task 40, <i>Multiple Appearance DN Redirection Prime</i> if you need help.</p> <pre>> LD 11 REQ CHG Requesting a change to an existing telephone TYPE Input the correct type of digital telephone. TN L S C U Input the Loop/Superloop number, Shelf number, Card number, Unit number of the telephone. Use the space bar between each number and the next. ECHG YES Input YES for Easy change ITEM Input KEY followed by a space followed by the key number where XX is 0–69 followed by a space followed by one of: KEY XX SCN X. .X SCN — Single Call non-ringing KEY XX SCR X. .X SCR — Single Call ringing KEY XX MCN X. .X MCN — Multiple Call non-ringing KEY XX MCR X. .X MCR — Multiple Call ringing followed by a space, followed by the DN you are assigning to the key you are changing – the DN is represented by X..X</pre>
— continued —	

Changing a basic digital telephone

STEP	ACTION
7 continued ...	
If	Do
you do not want to make any more changes to this telephone	step 9
you want to make further changes to this telephone	step 2
8 Change the DN or the Single Call/Multiple Call and ringing/non-ringing status of a DN not using Easy Change.	
<p>If there are other appearances of the DN you are changing, you must have a consistent Single Call/ Multiple Call status for all appearances. Refer to the earlier part in this module called <i>Consistent configuration</i> for information you will need before you make the change.</p> <p>If this telephone is the Multiple Appearance DN Redirection Prime (MARP) for the DN you are changing, refer to Task 40, <i>Multiple Appearance DN Redirection Prime</i> for assistance in understanding the messages that you will see when you change the DN. Decide what telephone you want to program as the MARP before you make the change to this telephone. Use the instructions in the step-action table in Task 40, <i>Multiple Appearance DN Redirection Prime</i> if you need help.</p>	
— continued —	

Changing a basic digital telephone

STEP	ACTION
<i>8 continued ...</i>	
> LD 11	
REQ CHG	Requesting a change to an existing telephone
TYPE	Input the correct type of digital telephone.
TN L S C U	Input the L oop/ S uperloop number, S helf number, C ard number, U nit number of the telephone. Use the space bar between each number and the next.
ECHG NO	Input NO or Carriage return since NO is default
CDEN <cr>	Carriage return until you see the KEY prompt
KEY XX SCN X . . X	Input the key number where XX is 0–69 followed by a space followed by one of: SCN — Single Call non-ringing SCR — Single Call ringing MCN — Multiple Call non-ringing MCR — Multiple Call ringing followed by a space followed by the DN you are assigning to the key you are changing – the DN is represented by X..X
KEY XX SCR X . . X	
KEY XX MCN X . . X	
KEY XX MCR X . . X	
If	Do
.....
you do not want to make any more changes to this telephone	step 10
you want to make further changes to this telephone	step 2
— continued —	

Changing a basic digital telephone

STEP	ACTION
9	<p>Finish the overlay program.</p> <p>ITEM <cr> Carriage return when you see the ITEM prompt again</p> <p>You see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 11.</p>
10	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>
— continued —	

Changing a basic digital telephone

STEP	ACTION	
11	Check the programming on the telephone which you have just programmed.	
	Printout the TN Block for the telephone. For more information, refer to <i>Basic programming instructions</i> in this book.	
	End LD 11 and go to LD 20	(pre-Release 19)
	or stay in LD 11	(Release 19 or later)
	REQ	PRT Request a printout
	TYPE	TNB TN Block
	TN	L S C U Input the L oop number, S helf number, C ard number, U nit number for the telephone you just programmed
	Carriage return for the remaining prompts. You get a printout of the data associated with the telephone.	
	If	Do

	Programming is correct	step 12
	Programming is not correct	step 2
12	Arrange for a data dump to be performed.	
	If	Do

	you do not have access to LD 43	Contact your system supplier.
	you have access to LD 43	step 13
	— continued —	

Changing a basic digital telephone

STEP ACTION

- 13 Perform a data dump to permanently store the programming you have just completed.**



CAUTION

Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module of this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

- 14 Verify that the data dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If

Do

data dump fails


Contact your system supplier.

data dump succeeds

step 15

— continued —

Changing a basic digital telephone

STEP	ACTION
15	Terminate this overlay program • * * * *
16	Terminate this programming session. Log off. > LOGO
17	You have completed the programming required to change a basic digital telephone.
	

Make Set Busy Improvement

Purpose

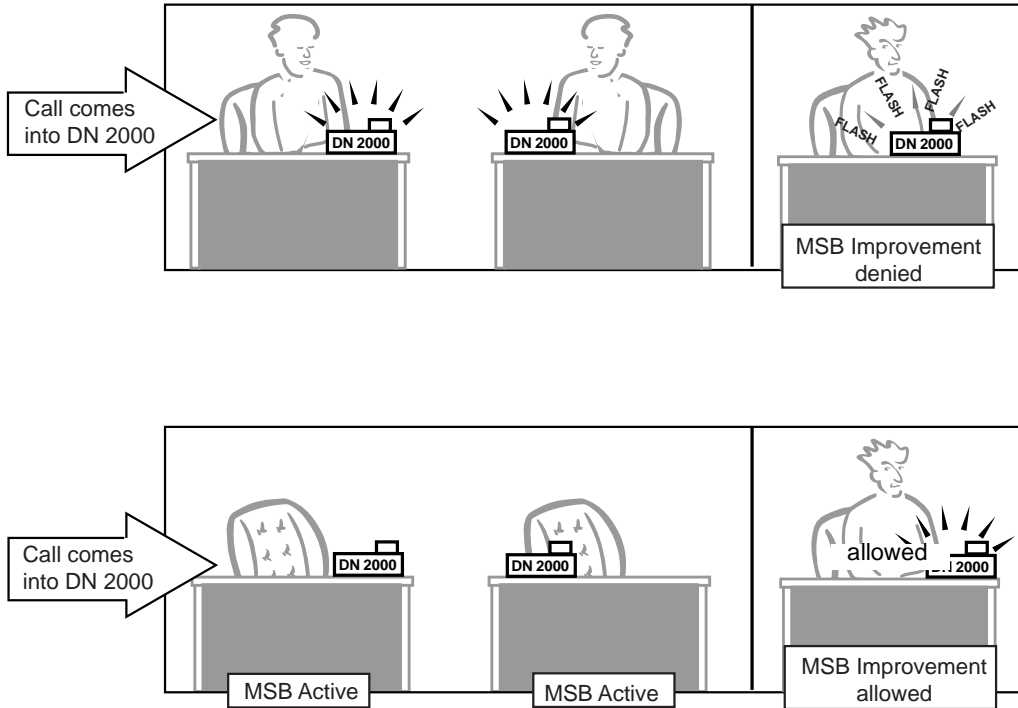
The Make Set Busy Improvement (MSBI) feature works with the Make Set Busy feature.

The Make Set Busy (MSB) feature allows a telephone to appear busy to all incoming calls. The user presses an MSB key (or dials a Flexible Feature Code) to activate this busy condition.

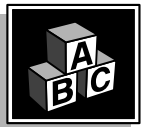
Sometimes one DN appears on several telephones. Some of the appearances of the DN are programmed to ring and the others are programmed not to ring; (the indicator for the non-ringing DN only flashes when there is an incoming call). When the telephone(s) with the ringing appearances of the DN have MSB active, the users of the telephones with the non-ringing appearances only have a visual indication of incoming calls to the shared DN.

In X11 Release 24, the Make Set Busy Improvement (MSBI) feature was introduced to allow the non-ringing appearances of a shared DN to ring during times when all telephones with the ringing appearances of the DN have MSB active.

Make Set Busy Improvement



Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Make Set Busy Improvement feature
- ◆ what you need to know to manage interactions with other features

Make Set Busy Improvement

Setting up the feature

Table 132
Software requirements

Release required	Software package(s) required
24	17 – Make Set Busy (MSB) If you use dial and Digitone-type telephones: 99 – Background Terminal (BGD) 139 – Flexible Feature Codes (FFC)

Types of telephones

For this feature, the telephones that share the same DN can be dial, Digitone-type and proprietary (not including Basic Rate Interface telephones). Non-proprietary telephones always have ringing appearances of the DN.

Programming the feature

Program the telephones as follows:

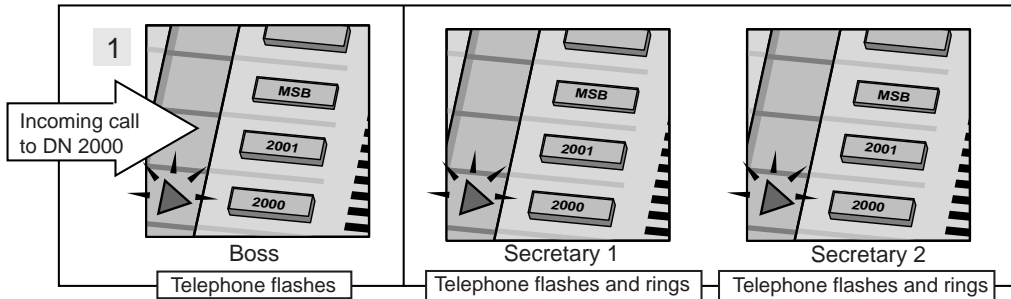
- ◆ There must be a Multiple Appearance DN on at least two telephones. The DN can be programmed as a Single Call or Multiple Call DN.
- ◆ The proprietary telephones with ringing appearances of the DN must have one MSB key each.
- ◆ The dial or Digitone-type telephone users must dial a Flexible Feature Code (FFC) for MSB, so you must program an FFC.
- ◆ The telephones with non-ringing appearances of the DN must have Make Set Busy Improvement allowed in the Class of Service.

If there are two telephones with non-ringing appearances of the DN, the MSBI feature can affect both of the non-ringing telephones. Both of the non-ringing telephones must have Make Set Busy Improvement allowed in the Class of Service. When all telephones with ringing appearances of the DN have MSB active, incoming calls to the shared DN will ring at the two telephones that usually do not ring.

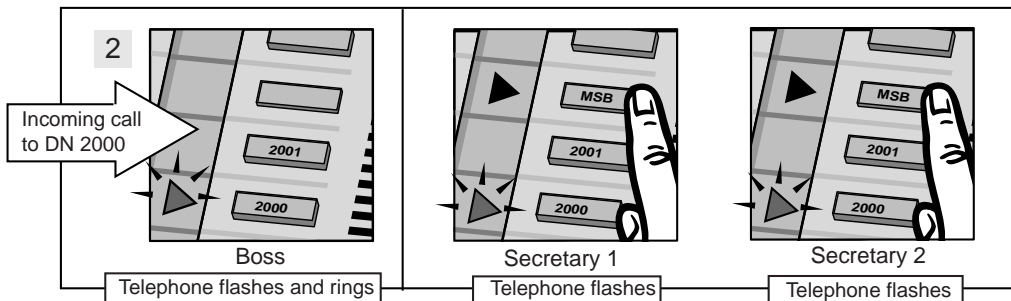
Make Set Busy Improvement

Using the feature

Operation when secretaries are able to answer calls:



Operation when secretaries activate MSB:



The boss's telephone rings when a call comes in.

Interactions with other features

Make Set Busy Improvement (MSBI) works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services* guide.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Make Set Busy Improvement

Directory Number Delayed Ringing (DNDR) interacts with MSBI

The DNDR timer gives a user time to answer a call at one telephone before it starts to ring at a second telephone.

If Make Set Busy Improvement is allowed, and MSB is active for all ringing appearances of a DN, any non-ringing appearance of the DN rings immediately, overriding the DNDR timer. This makes sense since the users with the ringing DNs have Make Set Busy active, so they are not going to answer the call. Therefore, the incoming call rings immediately on the telephone with the non-ringing appearance.

Distinctive Ringing by DN interacts with MSBI

If a non-ringing DN key becomes a ringing key due to the Make Set Busy Improvement feature, the telephone rings based on the Distinctive Ringing by DN programmed for the caller's DN key.

Private Lines interact with MSBI

The Make Set Busy feature does not affect Private Lines. Ringing Private Line DN appearances continue to ring on telephones even though MSB is active. However, the Make Set Busy Improvement feature affects the non-ringing appearances of these DNs. If MSB is active at all telephones with ringing appearances of the Private Line, the telephones with non-ringing appearances (with MSBI allowed) ring when there is an incoming call.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist which follows under *What to have ready* to confirm that you have what you need.

Make Set Busy Improvement

Ringing Change Key (RCK)

Table 133
Software requirements

Release required	Software package(s) required
15.58F	131 – International Supplementary Features (SUPP) 193 – Ringing Change Key

Some telephone users want to press a key to control the ringing of the DN's on their telephones. A Ringing Change Key allows a user to turn off the ringing of DN's on the telephone. To re-activate the ringing, the user presses the RCK key again.

Many people with Multiple Appearance DN's use the feature. Users can turn off the ringing of their telephones when a user of a ringing telephone is there to answer at another telephone.

If the following conditions exist: a telephone has Make Set Busy Improvement allowed, the user has turned off ringing with the Ringing Change Key, and all other ringing appearances of the shared DN have MSB active, then, when an incoming call is presented, the "turned off" DN rings, even though ringing was turned off using the Ringing Change Key.

Control tips



- ◆ Make Set Busy keys can be used too frequently by some users. Monitor users by asking questions about telephone use or conducting Traffic Studies to find out how often features are used.
- ◆ People with shared DN's operate MSB best if they communicate with each other before they use the feature. If the users who are supposed to answer calls, frequently activate MSB simultaneously, the users with non-ringing appearances end up answering calls more often than necessary.

Make Set Busy Improvement

Administration tips



- ◆ Find out which users of shared DNs would not mind answering calls occasionally when the other users with the same DN are not available.
- ◆ Consider the following situations before you assign Ringing Change Keys and Make Set Busy keys:
 - User “A” who cannot answer calls usually tells User “B” with an RCK key to turn on the ringing of telephone “B” to answer calls. Even if User “A” forgets to do this, telephone “A” still rings for every incoming call. If User “B” sits nearby, they can still hear that calls are coming in and answer them. If User “B” does not sit nearby, they cannot hear that calls are coming in. Calls can go unanswered.

However, if User “A” activates MSB, telephone “A” no longer rings. If User “B” does not press the RCK key on telephone “B” to activate ringing, then calls can go unanswered.

- with Make Set Busy Improvement, User “B” does not have to be notified that User “A” is gone. When User “A” presses the Make Set Busy key, the system turns on the ringing of non-ringing appearances of the DNs. If User “A” forgets to activate MSB, telephone “A” still rings. If User “B” is nearby, he or she can hear the ringing and answer the calls. If User “B” is not nearby, he or she cannot hear the ringing. Calls can go unanswered.

Training tips



- ◆ Make sure users understand what it means if the non-ringing appearances of DNs begin to ring. They must understand that the other users who share the DN are not available to answer the calls.
- ◆ Re-evaluate the usefulness of the MSBI feature with each new employee who will use a telephone where it is active. Make sure new users understand how it works and follow up with them.

Make Set Busy Improvement

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 134
Checklist

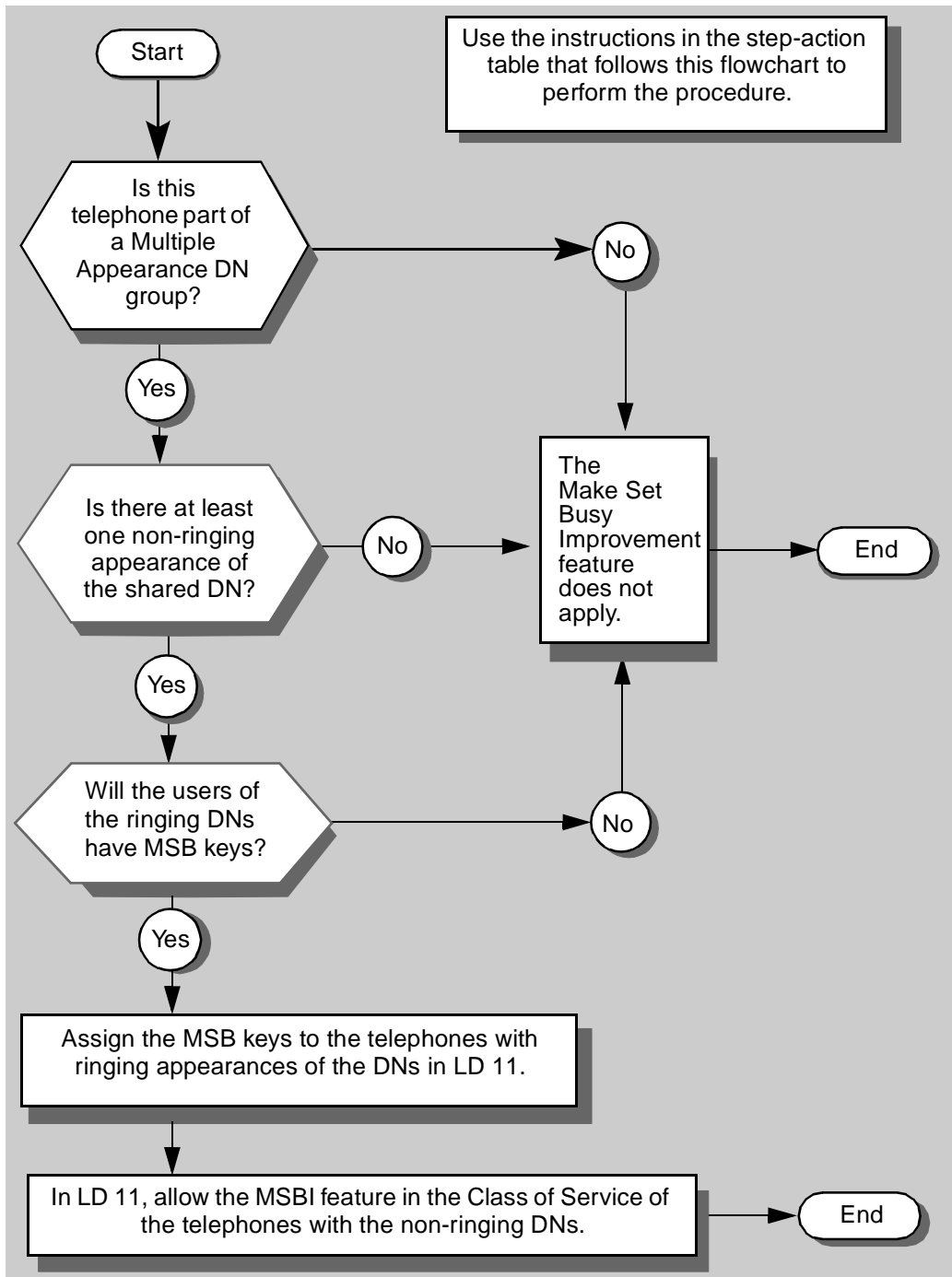
Basic	Optional	Preparation
✓		Decide which users will share DNs.
✓		Decide which proprietary telephones are to have ringing appearances or non-ringing appearances of the DNs.
✓		Assign MSB keys to users of ringing DNs who will operate the feature properly.
✓		Find out if any users of dial or Digitone-type telephones need to activate MSB. Decide what FFC to assign to MSB. Train these users.
✓		Decide which users of non-ringing shared DNs will answer calls occasionally for other users when they are not available. Allow the Make Set Busy Improvement feature on their telephones.
✓		Train users of MSB keys and ringing shared DNs and users of non-ringing shared DNs about the Make Set Busy Improvement feature.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Make Set Busy Improvement



Make Set Busy Improvement

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Make Set Busy Improvement feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION	
1	Log in.	
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
2	Choose your starting point from the choices below.	
	If	Do
	you are programming a new proprietary telephone with a ringing DN and a Make Set Busy key	step 3.
	you are programming a new dial or Digitone-type telephone with a shared DN	one of Tasks 1-6, depending on the type of telephone. Program a Flexible Feature Code for MSB in LD 57.
	you are programming a new proprietary telephone with a non-ringing DN and the Make Set Busy Improvement feature	step 4.
	you are making a change to deny the Make Set Busy Improvement feature	step 5.
— continued —		

Make Set Busy Improvement

STEP	ACTION	
3	Program a new digital or SL-1-type telephone with a ringing DN and a MSB key.	
	> LD 11	
	REQ	NEW Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number (TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	Program the basics...	Refer to Tasks 7-19 for information.
	Carriage return until you see the prompt KEY	
	Program the DN(s) on the key(s) in one of the following ways:	
	KEY XX SCR X . . X	
	KEY XX MCR X . . X	
	XX represents the key number (0–59) Key 0 must be programmed with a DN	
	SCR — single call ringing DN MCR — multiple call ringing DN	
	X..X represents the actual digits in the DN; type the actual digits (1–7 digits with DNXP software package or 1–4 digits without DNXP)	
	For the Make Set Busy Improvement feature, the DN(s) you assign to this telephone must appear as non-ringing DN(s) on another proprietary telephone. Refer to step 4.	
	Program the Make Set Busy feature key:	
	KEY XX MSB	
	Go to step 8.	
	— continued —	

Make Set Busy Improvement

STEP	ACTION	
4	Program a new digital or SL-1-type telephone with a non-ringing DN and the MSBI feature allowed.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	Program the basics...	Refer to Tasks 7-19 for information.
	Carriage return until you see the prompt CLS	
	CLS MSIA	Make Set Busy Improvement feature allowed
	Carriage return until you see the prompt KEY	
	Program the DN(s) on the key(s) in one of the following ways:	
	KEY XX SCN X . . X	
	KEY XX MCN X . . X	
	XX represents the key number (0–59) Key 0 must be programmed with a DN	
	SCN — single call non-ringing DN MCN — multiple call non-ringing DN	
	X..X represents the actual digits in the DN; type the actual digits (1–7 digits with DNXP software package or 1–4 digits without DNXP)	
	For the Make Set Busy Improvement feature, the DN(s) you assign to this telephone must appear as ringing DN(s) on another telephone that has MSB. Refer to step 2.	
	Go to step 8.	
	— continued —	

Make Set Busy Improvement

STEP	ACTION	
5	Change an existing telephone to deny the Make Set Busy Improvement feature.	
REQ	CHG	Program a change to an existing telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
ECHG		
If		Do
.....		
	using "Easy Change"	Input YES and go to step 6.
	not using "Easy Change"	Input NO or <cr> and go to step 7.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
6	Program an "Easy Change" to an existing telephone.	
ITEM	CLS MSID	Make Set Busy Improvement feature denied.
	Go to step 8.	
7	Program a change (not an "Easy Change") to an existing telephone.	
	carriage return until you see the prompt CLS	
CLS	MSID	Make Set Busy Improvement feature denied
	Go to step 8.	
— continued —		

Make Set Busy Improvement

STEP	ACTION								
8	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p>								
9	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the new telephone or the changed telephone behaves as expected when you activate MSB at all telephones with ringing appearances of the shared DN.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>feature works properly</td> <td>step 10.</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1.</td> </tr> </tbody> </table>	If	Do	feature works properly	step 10.	feature does not work properly	step 1.
If	Do								
.....								
feature works properly	step 10.								
feature does not work properly	step 1.								
10	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 11.</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 11.
If	Do								
.....								
you do not have access to LD 43	Contact your system supplier.								
you have access to LD 43	step 11.								

Make Set Busy Improvement

STEP ACTION

- 11 Perform a data dump to permanently store the programming you have just completed.**



CAUTION

Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

- 12 Verify that the dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If

Do

data dump fails

Contact your system supplier.

data dump succeeds


step 13.

- 13 Terminate this overlay program.**

. ****

— continued —

Make Set Busy Improvement

STEP	ACTION
14	Terminate this programming session. Log off. > LOGO
15	You have completed the programming required to add or change the Make Set Busy Improvement feature on telephones.
	

Message Center

Purpose

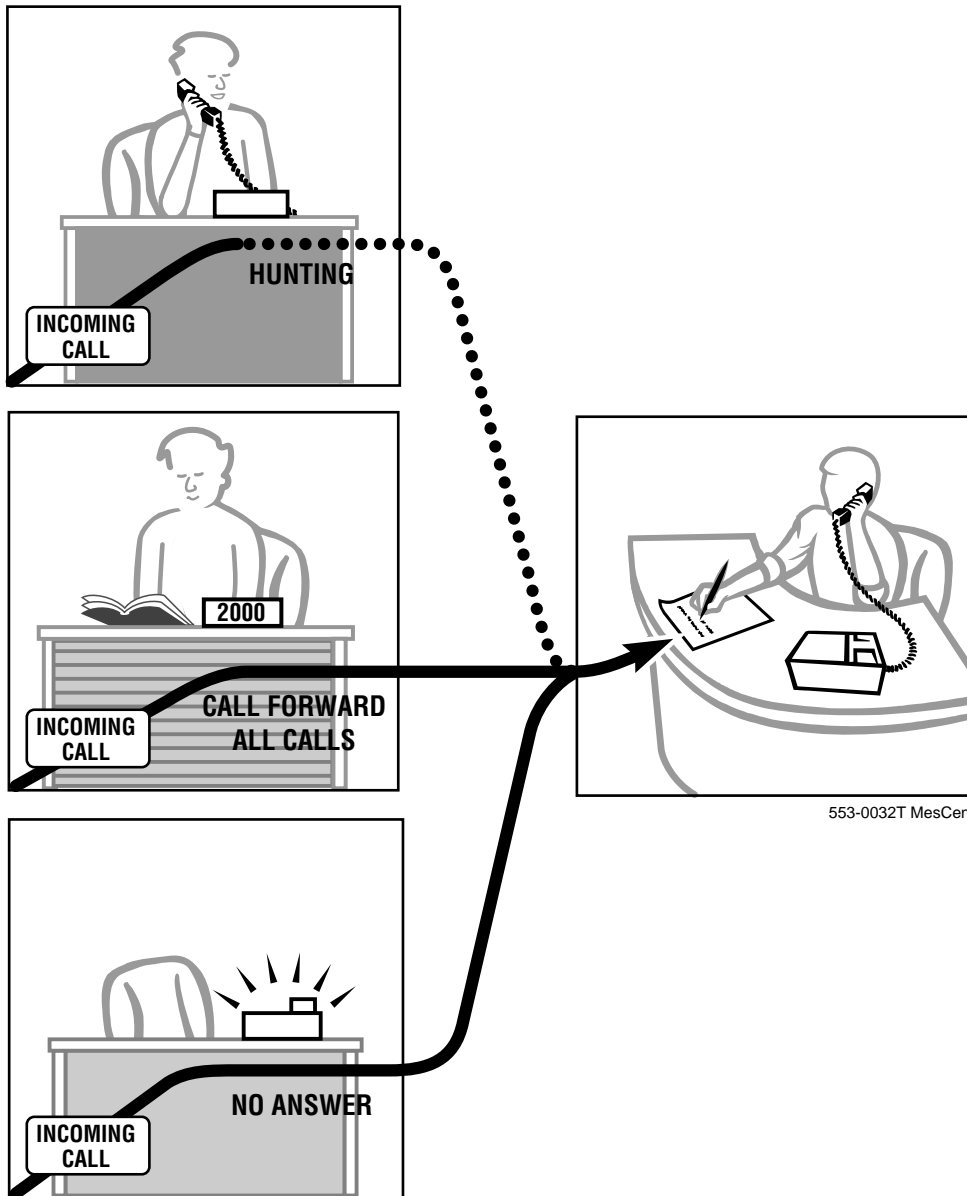
When telephones are busy, unanswered or forwarded, calls can be redirected to backup answering telephones or voice mail systems. This method of answering calls is referred to as a Message Center. Sometimes people refer to Message Centers as *back-up answering positions*.

The main functions of the Message Center are to:

- ◆ take calls for users who cannot take the calls themselves
- ◆ indicate to the users that there are messages for them
- ◆ give the messages to the users
- ◆ deactivate message waiting indication at users' telephones

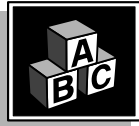
Message Center

Telephone-Type Message Center



Message Center

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Message Center features
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Message Center operation requires a software package called Message Waiting Center to be equipped on your system. You select the telephones that are to have Message Waiting or the Message Center capabilities, then you use the procedure in this module to program each one.

Table 135
Software requirements

Release required	Software package(s) required
1	46 – Message Waiting Center (MWC)

Types of Message Centers

You can choose from three different types of Message Centers:

- ◆ digital or SL-1 telephone
- ◆ Attendant Console
- ◆ Automatic Call Distribution (ACD), also called Call Center

It is beyond the scope of this book to discuss the ACD Message Center alternative in detail. ACD-type Message Centers can be made up of users at telephones programmed as ACD agents or Meridian Mail, since Meridian Mail is served by ACD queues.

Its main advantage over digital or SL-1 telephone-type Message Centers is the fact that calls are queued with ACD. Message Centers typically receive a large number of calls, so the queuing capability is a benefit.

Message Center

There are many ACD features which you can also use to enhance the operation of the Message Center. Refer to the *Special Features Guide* for more information on ACD and ACD Message Center.

Calls also queue when they are presented to the attendant(s). This is an advantage when the attendant(s) act as a Message Center.

You can program telephones with Short Hunting capability if they are to be configured as Message Centers. In this way, many calls can be taken at once when the Message Center has a high volume of calls. For more information on Short Hunting, refer to Task 38, *Hunting*.

Programming the Customer Data Block (LD 15)

- ◆ The Message Center function is activated as an option in the Customer Data Block (LD 15).
- ◆ Along with that, four Message Center specific call treatments can be programmed in LD 15. The response to these four Message Center prompts is either YES or NO.

The four scenarios are summarized in the following table:

Table 136
LD 15 programming for Message Centers

Prompt	Call treatment	Yes	No
No answer DID calls	Go to ACD type Message Center?		
No answer non-DID calls	Go to ACD type Message Center?		
DID calls to busy telephones	Go to ACD type Message Center?		
Consoles used as Message Center	N/A		

Message Center

The first three call treatment choices in the preceding table control calls only if there is an ACD queue programmed as a Message Center. If the response to these three prompts is YES, all calls to all telephones in the situations described will go to the ACD queue programmed as the Message Center.

The fourth prompt in the table applies to systems where the attendant queue is the only Message Center.

On systems where digital or SL-1-type telephones act as Message Centers for various groups of users, these prompts do not apply. Each telephone on a system configured with telephone-type Message Centers is programmed to redirect calls to a particular DN on the Message Center telephone.

Call Forward No Answer and the Customer Data Block

There are three prompts in the Customer Data Block that affect telephone-type Message Centers. The response to each of these three prompts controls what happens to *unanswered calls* on a Customer-wide basis. The choices affect what programming you must do at the individual telephone level. The three call-types the system defines are:

- ◆ DID calls
- ◆ external non-DID trunk calls
- ◆ internal calls or calls from trunks that are programmed as internal-type

The possible responses to each of these three call types are: NO, ATT, HNT or FDN.

- ◆ If NO is the choice, then there is no treatment for unanswered calls. Telephones ring until answered at the telephone or the caller hangs up.
- ◆ If ATT is the choice, then unanswered calls go to the attendant(s).
- ◆ If HNT is the choice, then unanswered calls go to the programmed HUNT DN for the individual telephone.
- ◆ If FDN is the choice, then each individual telephone is programmed with a HUNT DN which receives calls when the telephone is busy and an FDN which receives calls when the telephone goes unanswered.

Message Center

Refer to Task 37, *Call Forward No Answer* for more information on these treatments for unanswered calls.

Programming the telephones

The telephones that are backed up by these Message Center telephones, or voice mail services, must have Message Waiting allowed in the Class of Service programming. Telephones that have Message Centers are usually programmed to Hunt calls to the Message Center DN when they are busy, and to forward calls to the Message Center DN when they are not answered. When users want to forward their calls, they input the DN of the Message Center when they use the Call Forward All Calls feature.

The programming involved with attendant-type Message Centers is beyond the scope of this book. There are a few different approaches you can take. The issues involved and some suggestions are briefly summarized here to get you started.

- ◆ If calls are to Hunt to the attendant when telephones are busy, and the attendant DN is 0, you must use a work-around to program the telephones.
 - You cannot program 0 as the HUNT DN of a telephone.
 - You can, instead, program a DN that is assigned to a TN which is in constant Call Forward mode to the attendant.
 - This TN is either a physical TN or, with Release 20 software, it can be a Phantom TN.
- ◆ Another alternative is to assign a DN to one of the Incoming Call Indicator keys on the console.

Discuss with your system supplier ways of programming your system so that calls Hunt and forward to the attendant, if this is the kind of Message Center you want.

Message Center

Message Waiting indication

You can program telephones in one of two ways to indicate to the user that there is a message waiting.

- ◆ a lamp can flash on the telephone
- ◆ interrupted dial tone (dial tone that goes on and off) can be heard when the handset is lifted. The user can still make calls when there is interrupted dial tone. Interrupted dial tone is also called *Audible Message Waiting*.

Dial or Digitone-type telephones

There are models of dial or Digitone-type telephones that have message waiting lamps. You activate the lamps in programming the Class of Service of the telephone.

Older systems require unique line cards and special power equipment for these telephones if they are to support message waiting lamps. Discuss this requirement with your system supplier.

Digital or SL-1-type telephones

You can program these telephones with Message Waiting keys that flash when there is a message waiting. When you program a Message Waiting key, you program it to automatically dial the DN that acts as the Message Center for that telephone when the user wants to hear messages.

There is no special line card required for these telephones when they are configured with Message Waiting keys.

Message Center operation

Message Center telephone users have two keys that assist them in turning on and turning off the Message Waiting indication at another telephone. The indication that they can activate or deactivate is a lamp or interrupted dial tone. The two keys are:

- ◆ Message Indication (**MIK**) — activates the message waiting lamp or interrupted dial tone at the other telephone
- ◆ Message Cancellation (**MCK**) — deactivates the message waiting lamp or interrupted dial tone at the other telephone

Message Center

For further information on the use of these two keys, refer to the *Using the feature* section of this module.

Using the feature

If the Message Center receives a call for a telephone that does not have a message indication active at that time, the Message Indication (MIK) lamp is steadily lit at the Message Center telephone while the message is being taken.

To activate the Message Waiting indication at another telephone

The Message Center operator can press the MIK key.

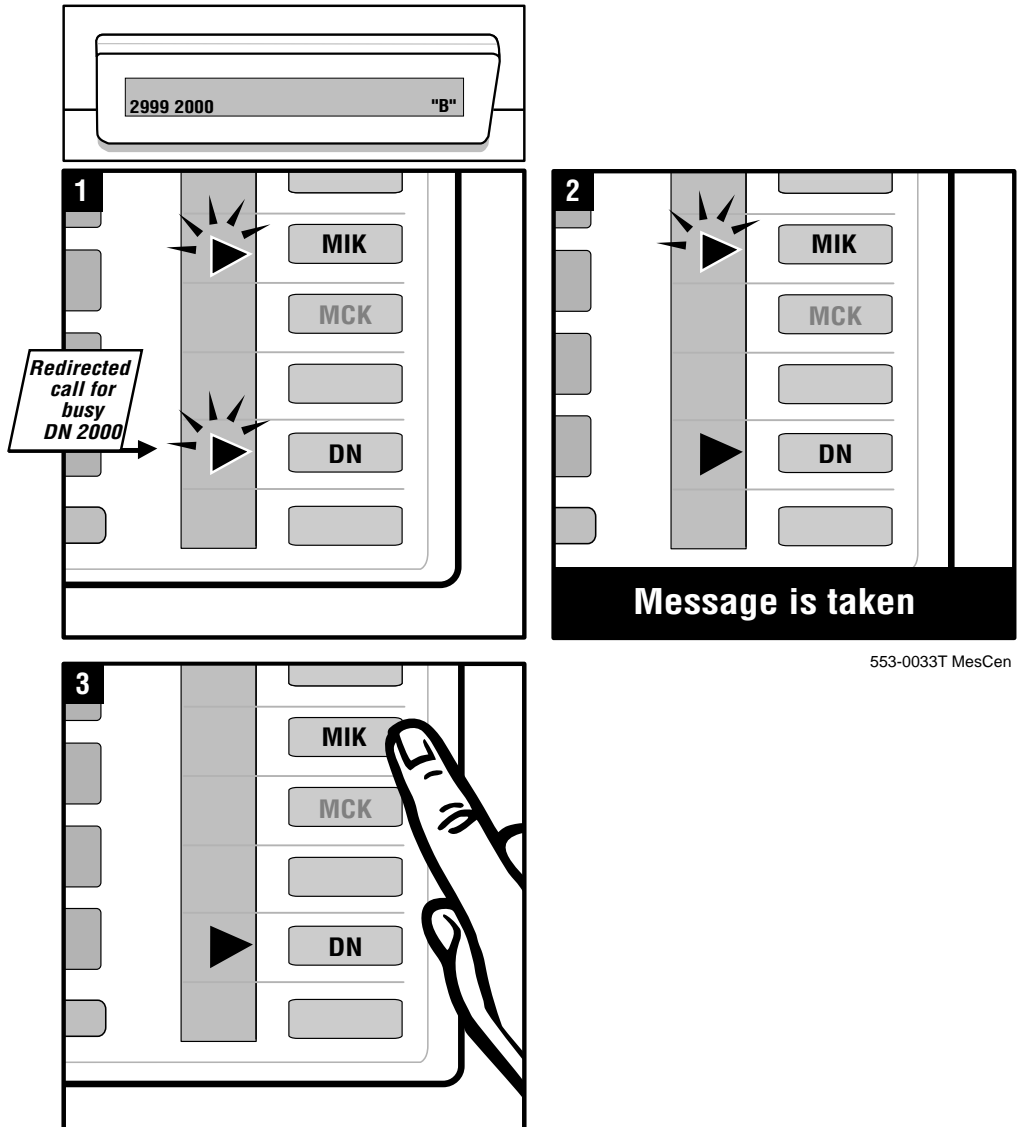
- ◆ If the call is still in progress when the MIK key is pressed, the system turns on the indication without the Message Center operator having to dial any DN.
- ◆ If the call is not still active, the Message Center operator presses the MIK key, dials the DN of the other telephone, and presses the MIK key once more. This activates the message waiting indication.

If the Message Center operator has already taken a message for the other telephone and a second call comes in for that same telephone, the MIK lamp flashes quickly for the second call. This indicates the message indication has already been activated at the other telephone. The Message Center operator does not have to press the MIK key for the second call. Pressing it has no effect on the other telephone.

If the MIK key at the Message Center telephone flashes slowly, this means that the message waiting lamp at the other telephone is disabled or not equipped. This state does not occur if audible message waiting is in place.

Message Center

Activating Message Waiting indication

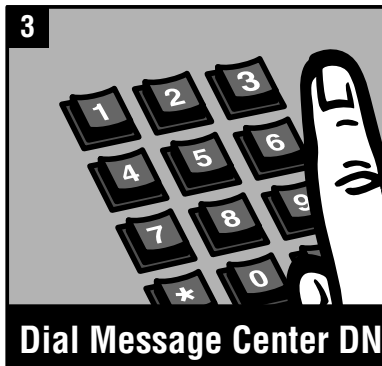
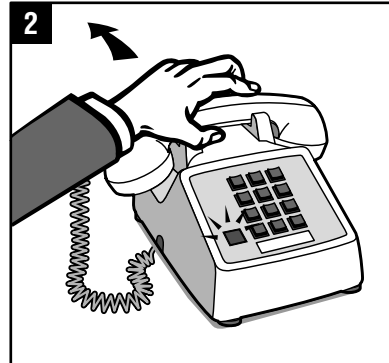
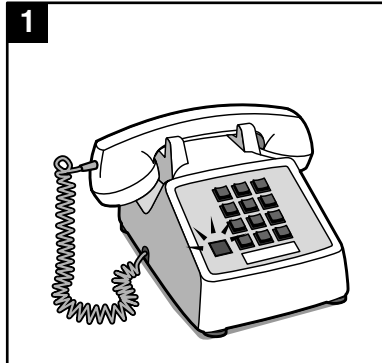


553-0033T MesCen

Message Center

To hear the message

If the other telephone is a dial or Digitone-type telephone, then the user must dial the DN of the Message Center. (Some models may have a button that can be programmed at the telephone to automatically dial these digits.)



Dial Message Center DN



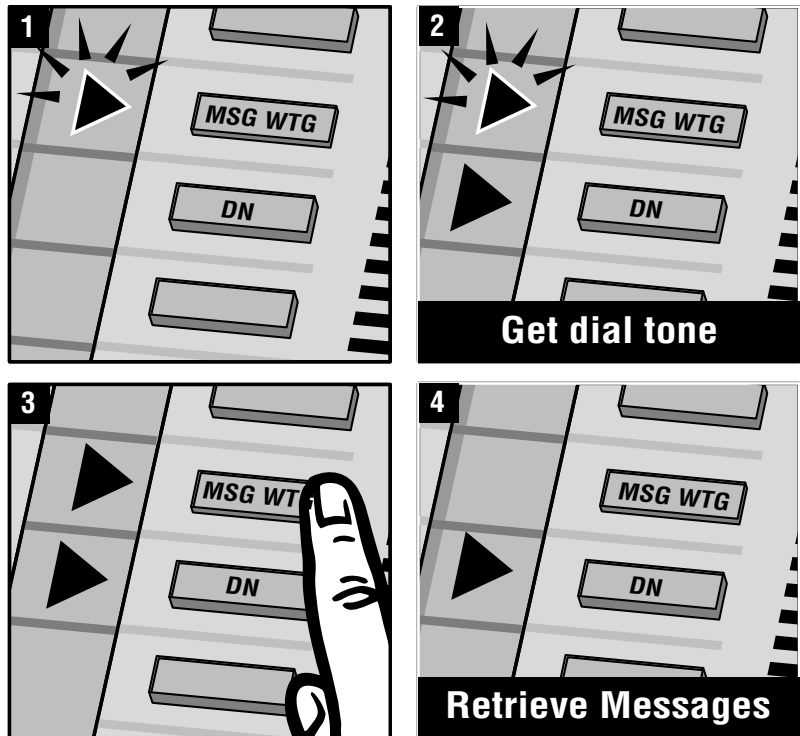
Retrieve Messages

553-0034T MesCen

Message Center

To hear the message (continued)

If it is a digital or SL-1 telephone, the person at the other telephone lifts the handset and presses the Message Waiting key. This key is pre-programmed to dial the Message Center DN.



553-0035T MesCen

Message Center

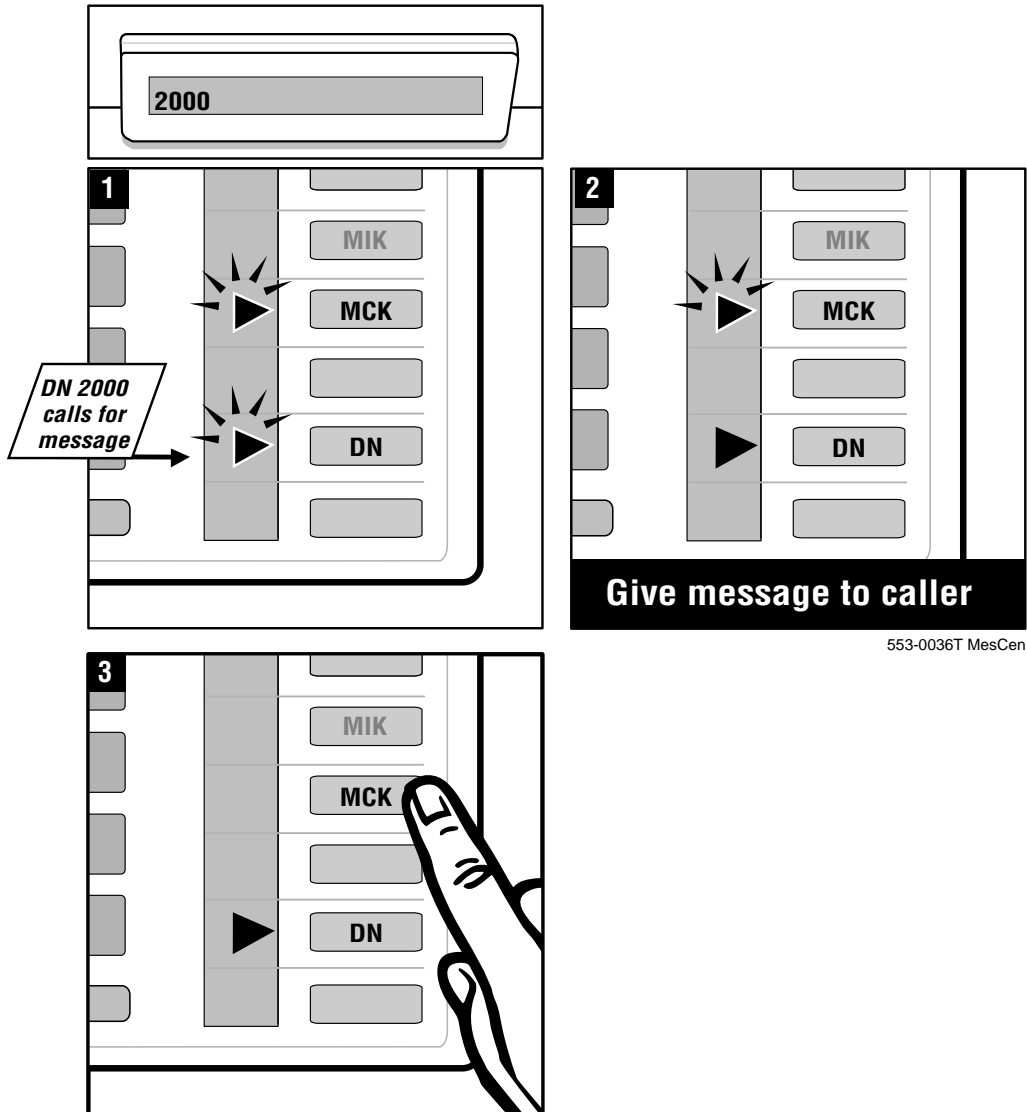
To deactivate a Message Waiting indication at another telephone

Without a call in progress the Message Center operator can press the MCK key, dial the DN of the other telephone, and press the MCK key again. There is no dial tone required at the Message Center telephone in order for this to work. When this is finished, the Message Waiting indication at the other telephone is deactivated.

With a call in progress when the Message Center operator answers a redirected call, the MCK key on the Message Center telephone flashes. This acts as a reminder to press the MCK key to deactivate the message indication at the other telephone. The operator does not need to dial the DN, the system has stored the DN and TN that redirected the call to the Message Center. The message waiting indication is deactivated for that telephone.

If a user without an active message indication calls a Message Center telephone, when the Message Center operator answers, the MCK lamp turns on steadily. This indicates that there is no message indication active at the other telephone at this time. Pressing the MCK key has no effect on the other telephone.

Message Center

Deactivating Message Waiting indication

Message Center

Interactions with other features

Message Center works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Second Level Call Forward No Answer interacts with Message Center

On systems with software Release 15 and later, if Second Level Call Forward No Answer has forwarded a call twice, the Message Center is able to activate message waiting indication on the telephone with the originally dialed DN.



Before Release 15, the Message Center can only activate a message waiting indication on the telephone which directly forwarded the call to the Message Center, not the originally dialed telephone, when Second Level Call Forward No Answer has redirected the call twice.

For more information, refer to Task 41, *Second Level Call Forward No Answer*.

Message Center**Improving feature performance**

The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist which follows under *What to have ready* to confirm that you have what you need.

Message Intercept

Table 137
Software requirements

Release required	Software package(s) required
15.58F	163 – Message Intercept (MINT) 125 – Flexible Tones and Cadences (FTC)

This software can be configured to give the user a recorded announcement instead of interrupted dial tone for Audible Message Waiting. This can significantly reduce the need for training because interrupted dial tone might confuse an untrained user, whereas a recorded announcement explains that there is a message waiting.

Call Party Name Display (CPND)

Table 138
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display (CPND)

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

Message Center

The redirection codes can be up to four letters long. The default codes for the various redirection-related features are:

Table 139
Redirection reason default codes

Feature name	Default code
Call Forward All Calls	F
Call Forward No Answer	N
Hunting /Call Forward Busy	B
Call Pickup	P
Transfer	T
Attendant Alternative Answering	A

These codes are presented on telephones with displays when calls are redirected to them by features such as Hunting.

For example, you might want people to see the code BUSY on their displays when they answer calls for other telephones because those people are busy and the calls Hunted.

People can greet callers more appropriately if they know why the calls are being presented to their telephones in the first place.

Talk to your system supplier about implementing CPND, or you can refer to *X11 software features and services* for more information. The programming involved is beyond the scope of this book.

Displays

Message Center telephones have a requirement for displays to answer calls in an effective way.

When the operator answers the call, the minimum information that the display shows is:

- ◆ the caller's DN, if the caller is internal to the system
- ◆ the trunk route access code of the trunk being used for the call, if the call is coming from an external location
- ◆ the originally dialed DN

Message Center

Since the originally dialed DN is displayed, the Message Center operator knows who the caller wants to reach and can answer the call effectively.

Display options are programmable on a per telephone basis. You can control what name will appear on a display if you have implemented CPND software. You can choose either one of two options for each Message Center, according to the needs of the operator.

- ◆ The caller's name can be displayed on the Message Center telephone display if:
 - Caller's Name Display is allowed (CNDA) in the Class of Service of the Message Center telephone
 - the caller's DN has a name associated with it in the Call Party Name Display overlay program (LD 95)

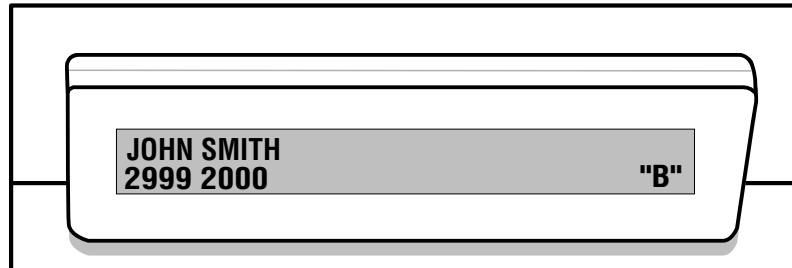
- ◆ The name of the person who was called can be displayed on the Message Center telephone display if:
 - Dialed Name Display is allowed (CNDA and DNDA) in the Class of Service of the Message Center telephone
 - the called party's DN has a name associated with it in the Call Party Name Display overlay program (LD 95)

Message Center operators usually find it more useful for their needs if they see the called party's name when answering calls rather than the caller's name.

In addition to the name (of the caller or called party), the caller's DN and the called DN are always displayed, along with the reason code, if that has been activated.

Message Center

Display appearance



553-0037T MesCen

In this example, the name of the caller, John Smith, is displayed. John Smith's DN is 2999. John called DN 2000. The reason the call was redirected to this Message Center telephone was because DN 2000 was busy, indicated by the reason for redirection code "B".

Message Waiting Indicator by DN

Table 140

Software requirements

Release required	Software package(s) required
24	19 – Digit Display (DDSP) 46 – Message Waiting (MWC) 246 – Voice Mailbox Administration (VMBA)

The functionalities provided by this feature are:

- ◆ **Multiple Message Waiting Indications:** You can assign a new key called an Extended Message Waiting Key to Meridian Modular telephones. You can use these keys as follows:
 - users who share a mailbox can all have a message waiting indication on their telephones when there are messages in the shared mailbox. When one of the users clears all the messages, the indicator is turned off at all telephones that share the mailbox. The DN associated with this key must be a secondary DN on all telephones.

Message Center

- one telephone can have several Message Waiting Indicators. This allows one person to monitor the mailboxes of other users.
- ◆ **Remote Propagation of Message Waiting Indication:** You can assign a new key called a Remote Message Waiting Key to Meridian Modular telephones. When the user presses this key, the display prompts the user to dial a mailbox DN. Once the mailbox DN is entered, the key indicates when there are voice messages in that remotely monitored mailbox.
- ◆ **Enhanced indication where one mailbox supports multiple DN's:** You can associate three DN's with one mailbox, and all three DN's will have a Message Waiting Indication when there are messages waiting in the mailbox. This capability is allowed on all proprietary telephones.

Classes of Service

- ◆ There is a Class of Service that affects the operation of the red LED on the Meridian Modular telephones. You can program it to allow the LED to stay on until messages are cleared for the prime DN mailbox and for the mailbox(es) associated with the Extended Message Waiting Keys.
- ◆ There are Classes of Service for remote monitoring of a mailbox. One allows the remote monitoring of a mailbox from a telephone with a Remote Monitoring Key. The other allows remote monitoring and allows a user to override a previous request for remote monitoring.
- ◆ There is a Class of Service that extends Message Waiting Indication to all telephones with the DN's that share the same mailbox.

Message Center

Control tips



- ◆ System administrators often find that users rely on Message Centers too much. Callers start to complain that they can rarely reach the person they want to speak to.
- ◆ You can monitor overuse of the Call Forward All Calls feature by using a maintenance program called Call Trace (LD 80). Discuss using this with your system supplier. You might need to walk around the different areas of the building to monitor how often people are letting telephones ring unanswered to be answered by the Message Center operators.
- ◆ Tell users you plan to monitor how often they forward their telephones and how often unanswered calls redirect to the Message Centers. You might let the Message Center operators know that they can keep you informed when some users overuse them as back-up answering positions.
- ◆ Tell users about your policies regarding use of the Message Centers.

Administration tips



- ◆ An attendant-type Message Center cannot be configured along with the other two types of Message Centers *within one customer group*. If both telephone-type and attendant-type Message Centers are required, you can work around the restriction. Assign a Directory Number (DN) to an Incoming Call Indicator key on the console. Have the system programmed to send calls to that DN, as if the DN resides on a telephone.
- ◆ Interrupted dial tone (Audible Message Waiting) might increase the number of repair calls users report. New users often think that they cannot make calls when they hear the strange dial tone. They also do not know, without training, that this type of dial tone means they have a message waiting.

Message Center

Although this is an inexpensive way to provide message waiting services to dial and Digitone-type telephone users, people can miss messages if they do not lift the handsets of their telephones frequently to check for interrupted dial tone.

- ◆ You might need to experiment with the number of DNs that you program on each Message Center telephone. This affects the Short Hunting you program on their telephones. Monitor each operator at first to see how well each is able to answer calls with the number of DNs you initially program on their telephones.

You need to monitor the number of people who use each Message Center for back-up answering. Excessive call volumes results in high stress levels for the operators, which in turn affects the way they answer calls.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Message Center operators need clear instructions on your policies regarding how calls should be answered.
- ◆ You will benefit greatly from training time spent with Message Center operators if you allow them to practice until they are comfortable with the keys before they answer calls in a live situation at their desks.
- ◆ If you are implementing Call Party Name Display and programming these codes, tell users about the redirection codes they will see on their displays.

Message Center

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 141
Checklist

Basic	Optional	Preparation
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Decide whether ACD-type or attendant-type or telephone-type Message Center best suits your needs.
✓		If telephone-type is your choice, decide, on a Customer-wide basis whether unanswered calls should go to the Hunt DN or a flexible DN of every telephone.
✓		Decide between Audible Message Waiting and lamps or keys for Message Waiting.
✓		Determine which telephones are to be Message Centers.
✓		Determine which telephones use each Message Center. Program them accordingly for Hunting and Call Forward No Answer.
✓		Decide which users of digital or SL-1-type telephones can have Message Waiting keys.
	✓	Prepare training for the Message Center operators. Prepare training for the users of Message Center services.
	✓	If you are using Audible Message Waiting, decide if you want to use Message Intercept recorded announcements.
	✓	If you are using CPND, decide what call redirection reason codes you want. Decide which users and trunk groups you want to name. Decide, for each Message Center telephone whether to display the caller's name or the called party's name.

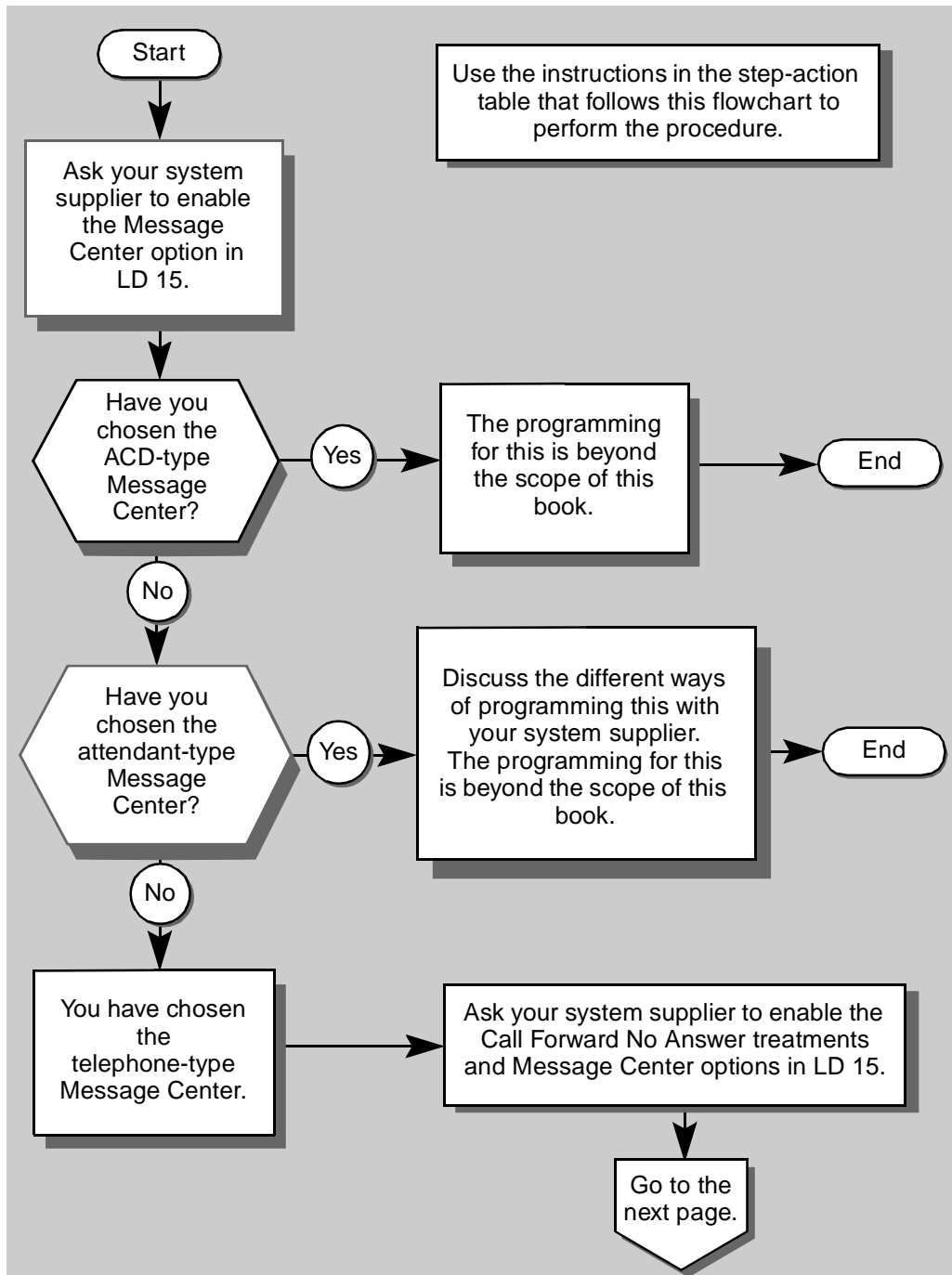
Message Center

What's next?

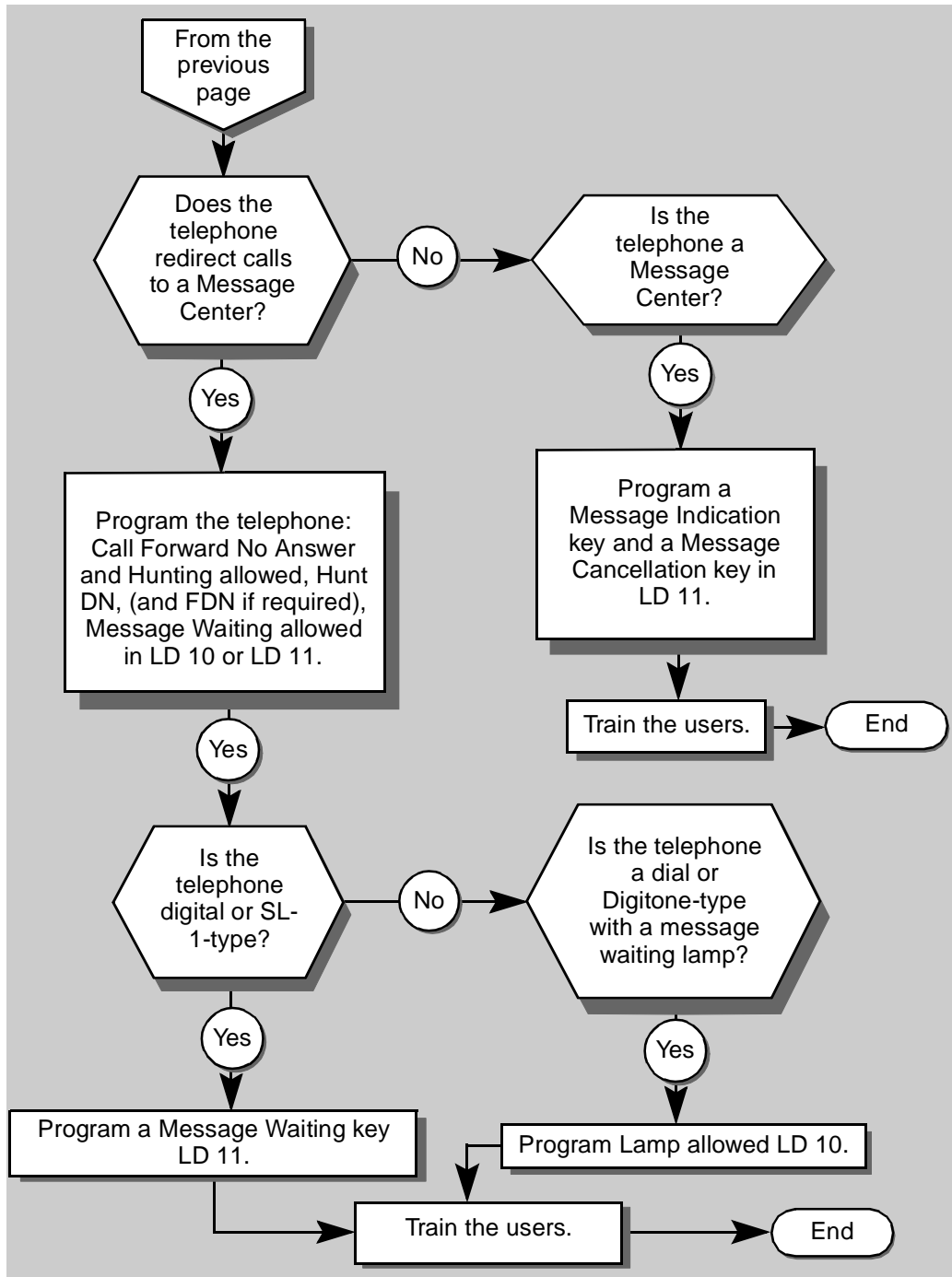
A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Message Center



Message Center



Message Center

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the telephone-type Message Centers features only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION

1 Verify that the Customer Data Block (CDB) programming has been done.

The Message Center option must be enabled and the Call Forward No Answer treatments must be programmed as HNT or FDN.

If

Do

you have access to LD 21 Print the CDB. Look for MCI (Message Center Included) under the OPT prompt. If MCX (Message Center Excluded) is there, ask your system supplier to change it. Refer to Task 37, *Call Forward No Answer*, for more information on the treatments.



CAUTION

Check your maintenance agreement before working in LD 21.

you do not have access to LD 21

Ask your system supplier to print out the Customer Data Block.

2 Ensure the telephones that are to redirect calls to a telephone-type Message Center when they are busy are programmed for Hunting.

Refer to Task 38, *Hunting* if you need help.

— continued —

Message Center

STEP	ACTION						
3	<p>Ensure the telephones that are to redirect calls to a telephone-type Message Center when they are not answered are programmed for Call Forward No Answer.</p> <p>Refer to Task 37, <i>Call Forward No Answer</i>, if you need help.</p>						
4	<p>Ensure the telephones that are to have the Call Forward All Calls feature are programmed for it.</p> <p>Refer to Task 33, <i>Call Forward All Calls</i>, if you need help.</p>						
5	<p>Choose your next step from the choices below.</p> <table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you are programming a telephone as a Message Center telephone</td> <td>step 6</td> </tr> <tr> <td>you are programming a telephone to have Message Center back-up</td> <td>step 11</td> </tr> </tbody> </table>	If	Do	you are programming a telephone as a Message Center telephone	step 6	you are programming a telephone to have Message Center back-up	step 11
If	Do						
you are programming a telephone as a Message Center telephone	step 6						
you are programming a telephone to have Message Center back-up	step 11						
6	<p>Program the keys on the Message Center telephone.</p> <p>The telephone must be digital or SL-1-type.</p> <p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p> <p>> LD 11</p> <p style="text-align: center;">— continued —</p>						

Message Center

STEP	ACTION	
6 continued ...		
	If	Do
	you are programming a new telephone	step 7
	you are changing an existing telephone	step 8
7	Program Message Indication and Message Cancellation keys on a new Message Center telephone.	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7-19 for information.
	carriage return until you see the prompt KEY	
	KEY XX MIK	XX represents a key number MIK (Message Indication) feature can be assigned to the following key numbers, depending on the kind of telephone: 1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1
	KEY XX MCK	XX represents a key number MCK (Message Cancellation) feature can be assigned to the following key numbers, depending on the kind of telephone: 1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1
	Go to step 18.	
— continued —		

Message Center

STEP	ACTION	
8	Change an existing telephone to add Message Indication and Message Cancellation keys.	
REQ	CHG	Program a change to an existing telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
ECHG		
If		Do
.....		
	using "Easy Change"	Input YES and go to step 9.
	not using "Easy Change"	Input NO or <cr> and go to step 10.
<p>For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.</p>		
9	Program an "Easy Change" to an existing telephone.	
ITEM	KEY XX MIK	XX represents a key number
		MIK (Message Indication) feature can be assigned to the following key numbers, depending on the kind of telephone:
		1-5 M2006
		1-7 M2008
		1-59 M2216, M2616
		1-69 SL-1
— continued —		

Message Center

STEP	ACTION
9 continued ...	
ITEM KEY XX MCK	<p>XX represents a key number</p> <p>MCK (Message Cancellation) feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <p>1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1</p> <p>Go to step 18.</p>
10	Program a change (not an “Easy Change”) to an existing telephone.
	carriage return until you see the prompt KEY
KEY XX MIK	<p>XX represents a key number</p> <p>MIK (Message Indication) feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <p>1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1</p>
KEY XX MCK	<p>XX represents a key number</p> <p>MCK (Message Cancellation) feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <p>1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1</p> <p>Go to step 18.</p>
— continued —	

Message Center

STEP ACTION
11 Program a telephone for Message Waiting.

Log in. For information on proper login procedures, refer to *Basic programming instructions* in this book.

If	Do
new dial or Digitone-type telephone	Use LD 10. Go to step 12.
new digital or SL-1-type telephone	Use LD 11. Go to step 12.
changing a dial or Digitone-type telephone	Use LD 10. Go to step 14.
changing a digital or SL-1-type telephone	Use LD 11. Go to step 14.

12 Program a new telephone with a Message Waiting allowed Class of Service.

REQ	NEW	Program a new telephone
TYPE		Input correct type of 500 (dial or Digitone-type), SL-1 or digital telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
program the basics...		Refer to Tasks 1–19 for information.
		carriage return until you see the prompt CLS
CLS	MWA	Message Waiting allowed

— continued —

Message Center

STEP	ACTION
12 continued ...	
If	Do
dial or Digitone-type telephone with audible message waiting indication only	Go to step 18.
dial or Digitone-type telephone with a lamp	Enter a space after MWA and input LPA (Message Waiting lamp allowed). You must have the proper hardware in the system for this to work on some systems. Check with your system supplier, if the lamp does not flash when you test it. Go to step 18.
digital or SL-1-type telephone with audible message waiting indication only	Go to step 18.
digital or SL-1-type telephone with a message waiting key	Carriage return until you see the prompt KEY. Go to step 13.
13 Program a Message Waiting key on a new digital or SL-1-type telephone.	
KEY XX MWK Y..Y	<p>XX represents a key number</p> <p>MWK (Message Waiting Key) feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <p>1-5 M2006 1-7 M2008 1-59 M2216, M2616 1-69 SL-1</p> <p>Y..Y represents the DN of the Message Center for this telephone</p> <p>1-4 digits pre-Release 13 1-7 digits Release 13 and later (with DNXP)</p>
Go to step 18.	
— continued —	

Message Center

STEP	ACTION	
14	Change a telephone to Message Waiting allowed.	
REQ	CHG	Program a change to an existing telephone
TYPE		Input correct type of 500 (dial or Digitone-type), SL-1 or digital telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
ECHG		
If		Do
using "Easy Change"		Input YES and go to step 15.
not using "Easy Change"		Input NO or <cr> and go to step 16.
<p>For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.</p>		
— continued —		

Message Center

STEP	ACTION		
15	Program an "Easy Change" to an existing telephone.		
	ITEM	CLS MWA	Change Class of Service to Message Waiting allowed
	If		Do
	dial or Digitone-type telephone with audible message waiting indication only		Go to step 18.
	dial or Digitone-type telephone with a lamp		Enter a space after MWA and input LPA (Message Waiting lamp allowed). Go to step 18.
	digital or SL-1-type telephone with audible message waiting indication only		Go to step 18.
	digital or SL-1-type telephone with a message waiting key		Carriage return. You see the prompt ITEM again. Go to step 17
— continued —			

Message Center

STEP ACTION	
16 Program a change (not an “Easy Change”) to an existing telephone.	
CLS	MWA
	Change Class of Service to Message Waiting allowed
If	Do
dial or Digitone-type telephone with audible message waiting indication only	Go to step 18.
dial or Digitone-type telephone with a lamp	Enter a space after MWA and input LPA (Message Waiting lamp allowed). Go to step 18.
digital or SL-1-type telephone with audible message waiting indication only	Go to step 18.
digital or SL-1-type telephone with a message waiting key	Carriage return until you see the prompt KEY. Go to step 13.
— continued —	

Message Center

STEP	ACTION														
17	<p>Add a Message Waiting Key to an existing telephone.</p> <p>ITEM KEY XX MWK Y..Y</p> <p>XX represents a key number</p> <p>MWK (Message Waiting Key) feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <table border="1"> <thead> <tr> <th>Key #</th> <th>Telephone type</th> </tr> </thead> <tbody> <tr> <td>1-5</td> <td>M2006</td> </tr> <tr> <td>1-7</td> <td>M2008</td> </tr> <tr> <td>1-59</td> <td>M2216, M2616</td> </tr> <tr> <td>1-69</td> <td>SL-1</td> </tr> </tbody> </table> <p>Y..Y represents the DN of the Message Center for this telephone</p> <table border="1"> <tbody> <tr> <td>1-4</td> <td>digits pre-Release 13</td> </tr> <tr> <td>1-7</td> <td>digits Release 13 and later (with DNXP)</td> </tr> </tbody> </table> <p>Go to step 18.</p>	Key #	Telephone type	1-5	M2006	1-7	M2008	1-59	M2216, M2616	1-69	SL-1	1-4	digits pre-Release 13	1-7	digits Release 13 and later (with DNXP)
Key #	Telephone type														
1-5	M2006														
1-7	M2008														
1-59	M2216, M2616														
1-69	SL-1														
1-4	digits pre-Release 13														
1-7	digits Release 13 and later (with DNXP)														
18	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p> <p>Go to step 19.</p> <p style="text-align: center;">— continued —</p>														

Message Center**STEP ACTION****19 Check that the programming which you have just done is correct.**

Verify that the new telephone or the changed telephone behaves as expected when you leave a message and after the user hears the message.

If	Do
feature works properly	step 20
feature does not work properly	step 1

20 Arrange for a data dump to be performed.

If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 21

21 Perform a data dump to permanently store the programming you have just completed.**CAUTION**

Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

— continued —

Message Center

STEP	ACTION								
22	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <tr> <td style="text-align: left;">If</td> <td style="text-align: left;">Do</td> </tr> <tr> <td colspan="2">.....</td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 23</td> </tr> </table>	If	Do		data dump fails	Contact your system supplier.	data dump succeeds	step 23
If	Do								
.....									
data dump fails	Contact your system supplier.								
data dump succeeds	step 23								
23	<p>Terminate this overlay program.</p> <p>. ****</p>								
24	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>								
25	<p>You have completed the programming required to add or change the Message Center features on a telephone.</p>								



Ringling features

There are many different features that affect the way telephones ring. These features are discussed in this section.

Ringling frequency and cadence

There are two ways in which ringling can vary. They are:

- ◆ frequency (pitch)
- ◆ cadence

Frequency

Digital telephones can ring with high or low pitched tones. Refer to *Distinctive Ringling Groups* in this module for information about the four different ringling styles you can choose.

For dial and Digitone-type telephones the pitch of the ringling is not programmable; it is determined by the model of the telephone.

Cadence

Cadence is a term that describes the amount of time the ringling is on and off in each repeating ring cycle. In North America, the basic ringling cadence in one ring cycle is two seconds on and four seconds off.

Hardware

The Tone and Digit Switch is responsible for ringling proprietary telephones. The Ring Generator is responsible for ringling Dial and Digitone-type telephones.

Ringling features

Distinctive Ringling Groups

You can assign digital telephones to one of four Distinctive Ringling Groups (DRG1 – DRG4). You do this in the Class of Service. The default Class of Service setting is DRG1.

Table 142
Distinctive Ringling Group descriptions

Distinctive Ringling Group	Description
DRG1	(high fast tone) – default Frequency: 667 Hz/500 Hz Warble rate: 10.4 Hz
DRG2	(high slow tone) Frequency: 667 Hz/500 Hz Warble rate: 2.6 Hz
DRG3	(low fast tone) Frequency: 333Hz/250 Hz Warble rate: 10.4 Hz M2006/2008 telephones: Frequency: 1600/2000 Hz Warble rate: 10.0 Hz
DRG4	(low slow tone) Frequency: 333 Hz/250 Hz Warble rate: 2.6 Hz M2006/2008 telephones: Frequency: 1600/2000 Hz Warble rate: 2.5 Hz

Distinctive Ringling Groups can be very useful with the Call Pickup feature. When telephones are ringing in the Pickup group, users can identify which telephone is ringing and answer calls appropriately.

Ringling features

Flexible Tones and Cadences

Table 143
Software requirements

Release required	Software package(s) required
16	125 – Flexible Tones and Cadences (FTC)

In some countries flexible tones and cadences are required. Instead of TDS cards, Flexible Tone and Digit Switch (FTDS) cards are required.

Ringling Change Key

Table 144
Software requirements

Release required	Software package(s) required
15.58F	131 – International Supplementary Features (SUPP)
	193 – Ringling Change Key

A Ringling Change Key (RCK) allows a user to turn off the ringling of DNs programmed to ring on the telephone.

Many people use the feature with Multiple Appearance DNs. A user presses the RCK key to turn off the ringling of the telephone when a user at another telephone can answer the DN. To re-activate the ringling, the user presses the RCK key again.

Ringling features

Network and Executive Distinctive Ringing

Table 145
Software requirements

Release required	Software package(s) required
16.67G	74 – Distinctive Ringing Package (DRNG) 125 – Flexible Tones and Cadences (FTC) 185 – Executive Distinctive Ringing (EDRG) In a network application: 145 – Integrated Services Digital Network (ISDN) 161 – Integrated Services Digital Network Supplementary Features (ISDNS)

When you assign Executive Distinctive Ringing to a telephone, terminating telephones ring distinctively when they receive calls from the “Executive” telephone. Network Distinctive Ringing extends this functionality across an ISDN network.

Ringling features

Distinctive Ringing by DN

Table 146
Software requirements

Release required	Software package(s) required
24	74 – Distinctive Ringing Package (DRNG) 125 – Flexible Tones and Cadences (FTC) 185 – Executive Distinctive Ringing (EDRG) In a network application: 145 – Integrated Services Digital Network (ISDN) 161 – Integrated Services Digital Network Supplementary Features (ISDNS)

Here are two examples of ways in which Distinctive Ringing by DN (DRDN) is used:

- ◆ In some businesses it is important for users to be able to identify who is calling them (internally), by the way their telephones ring.
- ◆ Some users want each DN on the telephone to have a unique way of ringing so they know which DN has an incoming call.

You can apply distinctive ringing to each DN or Hotline key on a Meridian Modular digital telephone in the following ways:

- ◆ DRDN by call source: terminating telephones ring distinctively when the user initiates a call from the key. Each key on the originating telephone can have one of five distinctive ringing patterns.
- ◆ DRDN by call destination: each key has a distinctive ringing pattern when incoming calls are presented to the telephone. Each key can have one of five distinctive ringing patterns.

Ringling features

DRDN by call source overrides DRDN by call destination. The ringing pattern associated with the calling DN is used at the terminating telephone, in cases where the terminating key also has the feature allowed.

Distinctive Ringing for Dial Intercom

Table 147
Software requirements

Release required	Software package(s) required
13	21 – Dial Intercom (DI)

Calls on Dial Intercom keys are internal calls from other users in the same Dial Intercom group. You can set up the Customer Group so that incoming calls on Dial Intercom keys ring differently from calls coming in on DN keys. Therefore, users can differentiate Dial Intercom calls without looking at their telephones and give them priority with this feature.

The Distinctive Ringing for Dial Intercom cadence is 0.5 seconds on and 0.5 seconds off.

Ringling features

Buzzing

A single buzz tone is given on a proprietary telephone when a user is already active with a call on one key and a second call comes in.

The duration of the buzz tone became shorter after X11 Release 12, due to the Short Buzz for Digital Telephones feature. This feature was introduced for digital telephones only. The buzz tone lasts for 0.5 seconds (minimum) and 1.0 seconds (maximum). Previously for digital telephones, and presently for SL-1-type telephones, the buzz tone is two seconds long.

There is also a feature called Manual Signaling which allows a user to buzz another telephone. The other telephone buzzes when the user presses the key, for as long as the key is pressed.

Ringling instead of Buzzing on Digital Telephones

Table 148
Software requirements

Release required	Software package(s) required
24	none

This feature allows a digital telephone to ring, instead of buzz, when a call is presented in the following situations:

- ◆ when the handset is off hook but the telephone is idle
- ◆ when the handset is off hook but the telephone is idle and when the user is busy on another line

You decide which of the above situations apply to each user and program the correct Class of Service on the telephone.

The telephone rings in the style determined by the Distinctive Ringing Group number (1-4) programmed in the Class of Service.

Ringling features

Tones, Flexible Incoming

Table 149
Software requirements

Release required	Software package(s) required
14	none

The Flexible Incoming Tones feature replaces the standard buzz tone on a proprietary telephone with a buzz tone that has an on/off cadence. You activate this for SL-1-type and digital telephones, separately in the Customer Data Block. You also activate it for each proprietary telephone that requires the feature.

This feature applies to the following situations:

- ◆ an incoming call to a DN key while the user is busy on another DN
- ◆ an incoming call to a telephone that is off hook
- ◆ an incoming Call Park Recall when the user is busy on another DN
- ◆ an incoming Group Call while the user is busy on another DN
- ◆ a Call Waiting call
- ◆ an incoming call on a Dial Intercom key while the user is busy on another DN

Users find this feature useful when they are already busy with a call and they are not able to answer an incoming call. Users who sit nearby hear the repeated tones for the unanswered call and they can answer the call.

Also, the user can tell what kind of call is waiting to be answered by the cadence of the buzz tone. The cadence signifies the feature that is operating for the incoming call.

Ringling features

Distinctive Ringing on trunk routes

If you activate Distinctive Ringing on a trunk group, incoming calls from that trunk group have a unique ringing cadence. You can activate this feature on one or more trunk groups. On systems where the feature is applied to all trunk groups, the users know by the way their telephones ring whether an incoming call is externally or internally originated.

Table 150
Cadences

Type of telephone	Cadence
Proprietary	.64 seconds on, 0.36 seconds off
Dial and Digitone-type	1.54 seconds on, 0.38 seconds off

Enhanced Flexible Tones and Cadences allows a tone table, programmed on the trunk route, to determine the cadence and ringing frequency for incoming calls.

New Distinctive Ringing on trunk routes

Table 151
Software requirements

Release required	Software package(s) required
9.32	74 - Distinctive/ New Distinctive Ringing (DRNG)

You can activate a unique incoming call ringing cadence (0.512 seconds on, and .512 seconds off; 1.024 seconds on, 4.096 seconds off), system-wide, for all telephone types. Turn this feature on for the trunk groups that are to have this ringing cadence.

There is an interaction between Distinctive Ringing on trunk routes and Distinctive Ringing Groups. If a call comes in on a trunk route that has Distinctive Ringing enabled, and the telephone has DRG2 in

Ringling features

the Class of Service, the telephone rings with the DRG2 frequency and warble tone but with the cadence of the Distinctive Ringing on trunk route feature.

FTDS cards (Vintage D) are required in the system in order for this feature to work.

Directory Number Delayed Ringing (DNDR)

Table 152
Software requirements

Release required	Software package(s) required
21	none

If you want a non-ringing appearance of a Single Call DN or Multiple Call DN to ring, if it has not been answered after a specified amount of time, you can activate a DNDR timer.

You can program a different DNDR timer for each telephone. The DNDR timer applies to any unanswered non-ringing DN at that user's telephone.

When you have Multiple Appearance non-ringing DNs, there are many different ways you can choose to implement this feature. Two examples follow:

- ◆ if a non-ringing DN appears at three telephones and you want one of those users to know when the DN is not answered, program that user's telephone to begin to ring after a programmable number of seconds. Leave the DNDR timer deactivated at the other two telephones.
- ◆ if a non-ringing DN appears at three telephones and you want one of those telephones to begin to ring after 12 seconds and the second one to ring after 18 seconds, you can program the telephones with different DNDR timers. The third telephone can have a third setting or the default setting which is 0 (off).

Ringling features

Make Set Busy Improvement

The Make Set Busy Improvement (MSBI) feature works with the Make Set Busy feature.

The Make Set Busy (MSB) feature allows a telephone to appear busy to all incoming calls. The user presses an MSB key (or dials a Flexible Feature Code) to activate this busy condition.

Sometimes one DN appears on several telephones. Some of the appearances of the DN are programmed to ring and the others are programmed not to ring; (the indicator for the non-ringing DN only flashes when there is an incoming call). When the telephone(s) with the ringing appearances of the DN have MSB active, the user(s) of the telephones with the non-ringing appearances only have a visual indication of incoming calls to the shared DN.

In X11 Release 24, the Make Set Busy Improvement (MSBI) feature was introduced to allow the non-ringing appearances of a shared DN to ring for an incoming call when all telephones with the ringing appearances of the DN have the MSB feature active. Users of telephones with the feature allowed know that when one of their non-ringing DN keys does ring, it means that the other users of the DN are not available.



Refer to the Task module on Make Set Busy Improvement in this book. Talk to your system supplier about implementing other features related to ringing that are not included in this book.

942 Answering calls

of 1776

Ringling features

Automatic Hold

Purpose

The Automatic Hold feature allows a telephone user who is on a call to originate or answer another call without using the Hold button to put the existing call on hold.

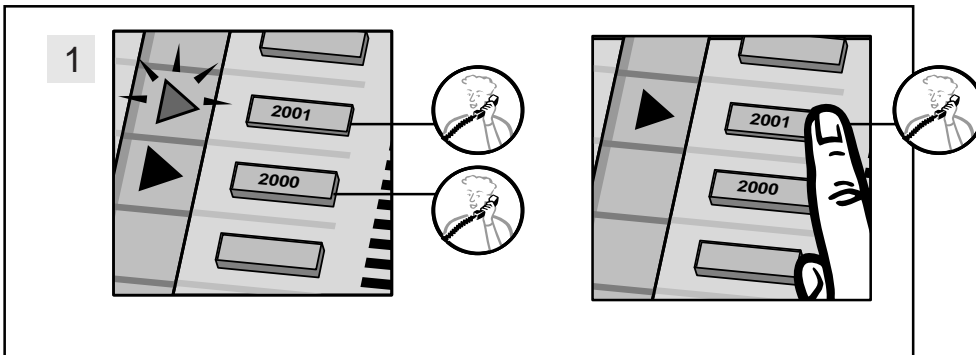
The user can automatically place a call on hold in one of the following ways:

- ◆ by pressing the DN key on which the call is active
- ◆ by pressing an idle DN key while a call is active on another DN key
- ◆ by pressing the key that has a new incoming call while a call is active on another DN key

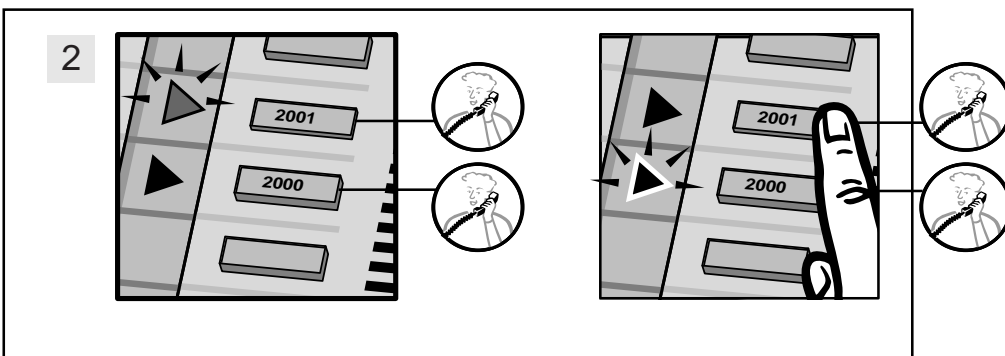
This feature prevents accidental disconnection of calls when a user forgets to put an existing call on hold before they answer a second call or make another call on a different DN key.

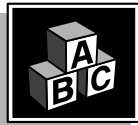
Automatic Hold

Automatic Hold denied



Automatic Hold allowed



Automatic Hold**Basic feature configuration**

This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Automatic Hold feature
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Automatic Hold comes with the communication system but the telephones do not come programmed to use the capability. You select the telephones that are to have the feature, then you use the procedure in this module to program each one.

Table 153
Software requirements

Release required	Software package(s) required
10.10B (International)	131 – International Supplementary Features (SUPP)
24 (Global)	none

You can program this feature on digital and SL-1-type telephones only. Allow Automatic Hold in the Class of Service. The feature is denied by default.

Attendant consoles already have this capability so it does not apply to them.

When you upgrade a system using International software to X11 Release 24, the telephones that have Automatic Hold allowed in their Class of Service will still have the feature, after the upgrade.

Automatic Hold

Using the feature

You can use the feature when you want to answer an incoming call when you are already on a call, as shown in the *Purpose* section. You can also use Automatic Hold when you are on a call and you want to make another call. Simply press an idle DN key. Your first call is automatically put on hold.

Note: The LED/LCD indication for a call put on hold using the Hold button is the same as for a call put on hold by the Automatic Hold feature.

Interactions with other features

Automatic Hold works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services* guide.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems, if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Automatic Call Distribution (ACD) In-Calls key interacts with Automatic Hold

If a user of an ACD agent telephone has an active ACD call on the In-Calls key and an incoming call is presented to an idle DN key, the user can press the DN key to answer the new call. The call on the In-Calls key is automatically put on hold.

If the user presses the In-Calls key again, the call on the In-Calls key is automatically re-established and the call on the DN key is put on hold.

If the user presses the In-Calls key while active on an ACD call, the ACD call disconnects (existing feature operation). The user can use the Release key to disconnect all calls.

Automatic Hold

Call Transfer interacts with Automatic Hold

If a telephone has Automatic Hold allowed in its Class of Service, the user can initiate or answer a call on another DN, while a call that the user was transferring is in the ringing or established state. The call on the Transfer key is automatically put on hold. To complete the Call Transfer, the user must press the Transfer key once to re-establish the call and press it a second time to complete the transfer.

Call Waiting interacts with Automatic Hold

If the user presses the Call Waiting key when a call is waiting there, the waiting call becomes the active call and the call on the other DN is automatically put on hold.

If the user is active on a call on the Call Waiting key, and a call comes into another DN key, the user can put the call on the Call Waiting key on hold, automatically, in one of the following two ways:

- ◆ press the Call Waiting key again
- ◆ select the incoming call on the DN key

Conference interacts with Automatic Hold

If a telephone has Automatic Hold allowed in its Class of Service, the user can initiate or answer a call on another DN, while a call that the user was conferencing is in the ringing or established state. The call on the Conference key is automatically put on hold. To complete the Conference, the user must press the Conference key once to re-establish the call to the second party in the conference call and press it a second time to set up the conference.

Digit Display interacts with Automatic Hold

When the user of a proprietary telephone answers a new call with a previous call on hold, the display becomes blank at first. Information about the previous call (Calling Line ID, for example) is replaced with information about the new call.

Hold interacts with Automatic Hold

A user whose telephone has Automatic Hold allowed can still put calls on hold using the Hold button.

Automatic Hold

Music on Hold interacts with Automatic Hold

When a call is put on hold using the Hold button or Automatic Hold, music can be sent to the party on hold. Refer to the information on Music, in the *X11 features and services* guide.

No Hold Conference interacts with Automatic Hold

The Automatic Hold feature does not apply when the No Hold Conference feature is used.

Voice Call and Enhanced Hotline interact with Automatic Hold

Calls on Enhanced Hotline or Voice Call keys can be put on hold automatically using the Automatic Hold feature.

Discussion of these features is beyond the scope of this book. For more information on these features, refer to the *X11 features and services* guide.

No Hold Conference interacts with Automatic Hold

When a call is active on a DN key and the user presses the No Hold Conference key, the call on the DN key is not put on hold. No Hold Conference has priority over Automatic Hold. Refer to “No Hold Conference” on page 996.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Automatic Hold

Control tips



- ◆ If your system has the kind of trunks, that do not release unless the internal user releases the call, ensure that users understand how to release calls. Tell them that pressing a DN key with a call already active on another key does not disconnect the first call; it puts the first call on hold. Tell the users to press their Release keys (or hang up) when they want to disconnect calls.

Administration tips



- ◆ Assign this feature to the following kinds of users:
 - users who are expected to answer incoming calls while they are active on a call already
 - users who make calls to other people while they are on a call. (This can be done using a Conference key but some users feel more comfortable with the operation of Automatic Hold.)
 - users who used telephones that automatically put active calls on hold when different lines were selected

Training tips



- ◆ Train users about the Hold button and the Automatic Hold capability. Allow them to try different ways of putting calls on hold in the training session. If a user has difficulty with one of the hold methods, adjust their Class of Service accordingly.

Automatic Hold

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

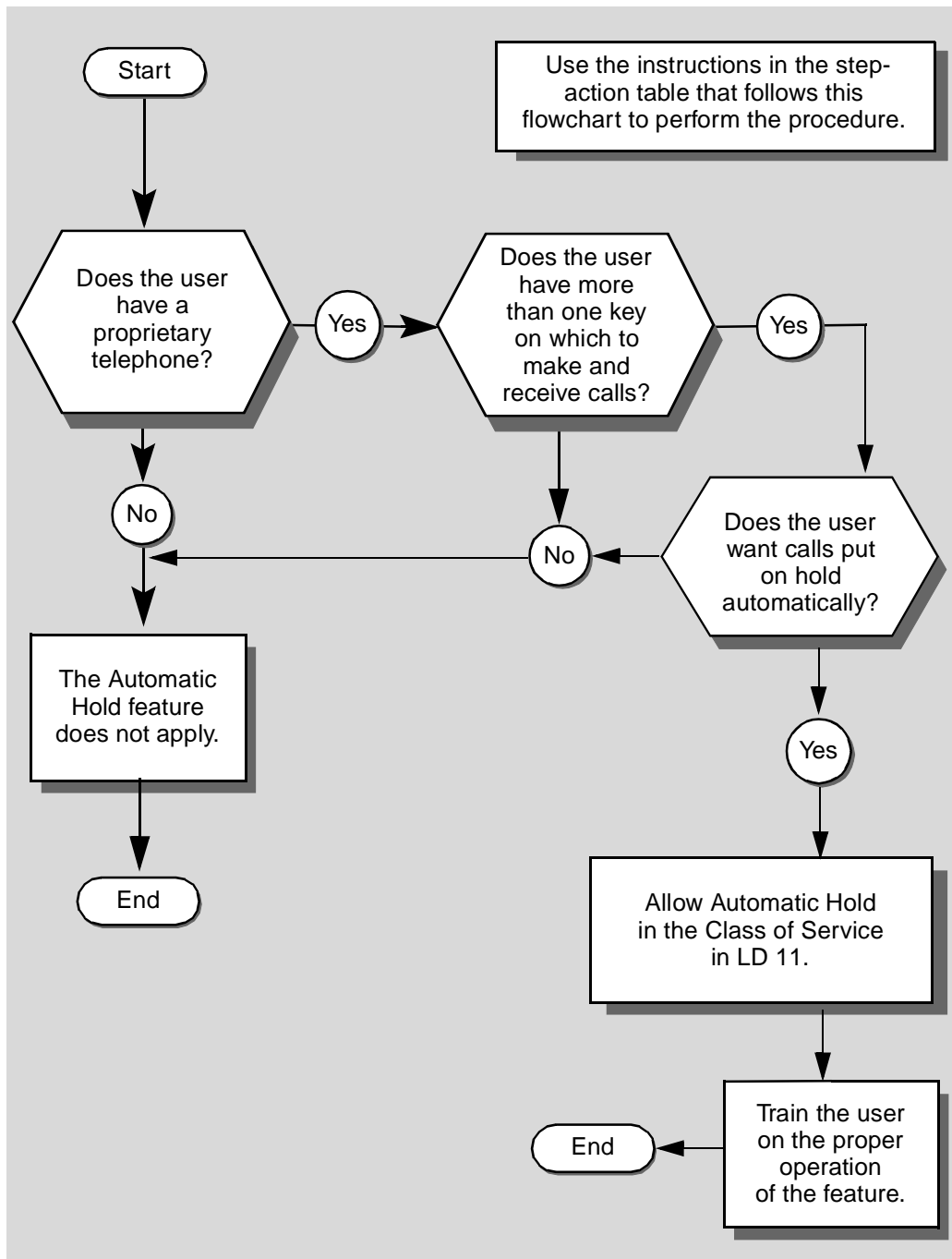
Table 154
Checklist

Basic	Optional	Preparation
✓		Decide how you will implement the Automatic Hold capability on proprietary telephones: <ul style="list-style-type: none"> ◆ for users who need it for their job functions ◆ for users with more than one key for making or receiving calls ◆ for users who are not familiar with the Hold button ◆ for all users
✓		Determine the TN assigned to each telephone that requires the feature. If you do not know the TNs, ask your system supplier.
✓		Train the users.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Automatic Hold.

A step-action table follows the flowcharts. The table explains the programming steps necessary to implement this feature.

Automatic Hold

Automatic Hold

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Automatic Hold feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION	
1	Log in	
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
2	Choose your starting point from the choices below.	
	If	Do
	new digital or SL-1-type telephone	step 3 to allow the feature. Automatic Hold is denied by default (no programming is required).
	change to a digital or SL-1-type telephone	step 4
3	Program Automatic Hold allowed on a new digital or SL-1-type telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...	Refer to Tasks 1–19 for information.
	Carriage return until you see the prompt CLS	
	CLS AHA	Automatic Hold allowed
	Go to step 11.	
	— continued —	


Automatic Hold

STEP	ACTION	
4	Program a change to the Automatic Hold feature on a digital or SL-1-type telephone.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 5.
	not using "Easy Change"	Input NO or <cr> and go to step 8.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
5	Program an "Easy Change" to an existing digital or SL-1-type telephone.	
	If	Do
	telephone is changing to Automatic Hold allowed	step 6
	you are removing Automatic Hold from telephone	step 7
6	Program an "Easy Change" to allow Automatic Hold on an existing SL-1 or digital telephone.	
	ITEM CLS AHA	Go to step 11.
7	Program an "Easy Change" to deny Automatic Hold on an existing SL-1 or digital telephone.	
	ITEM CLS AHD	Go to step 11.
— continued —		

Automatic Hold

STEP	ACTION								
8	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.								
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is changing to Automatic Hold allowed</td> <td>step 9</td> </tr> <tr> <td>you are removing Automatic Hold from telephone</td> <td>step 10</td> </tr> </tbody> </table>	If	Do	telephone is changing to Automatic Hold allowed	step 9	you are removing Automatic Hold from telephone	step 10
If	Do								
.....								
telephone is changing to Automatic Hold allowed	step 9								
you are removing Automatic Hold from telephone	step 10								
9	Allow Automatic Hold.								
	<p>Carriage return until you see the prompt CLS</p> <p>CLS AHA Go to step 11.</p>								
10	Deny Automatic Hold.								
	<p>Carriage return until you see the prompt CLS.</p> <p>CLS AHD Go to step 11.</p>								
11	Finish the overlay program.								
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 12.</p>								
— continued —									

Automatic Hold

STEP	ACTION						
12	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the new telephone or the changed telephone behaves as expected when you attempt to use the Automatic Hold feature.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 13</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 13	feature does not work properly	step 1
If	Do						
feature works properly	step 13						
feature does not work properly	step 1						
13	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 14</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 14
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 14						
14	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre> <p style="text-align: center;">— continued —</p>						

Automatic Hold

STEP	ACTION						
15	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 16</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 16
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 16						
16	<p>Terminate this overlay program.</p> <p>. ****</p>						
17	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>						
18	<p>You have completed the programming required to add or change the Automatic Hold feature on a telephone.</p>						



Call Transfer

Purpose

The Call Transfer feature allows a telephone user on any two-party call to hold the existing call and originate another call to a third party. The user can consult privately with the third party or transfer the original call to the third party.



553-0038T CTrans

Call Transfer

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Call Transfer feature
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Call Transfer comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to have the feature, then you use the procedure in this module to program each one.

Dial and Digitone-type telephones

You enable the Call Transfer feature in the Class of Service of these telephones.

If you do not allow the Call Transfer feature in the Class of Service, the telephone user cannot use the switch-hook flash for any features that require it, not only for Call Transfer. Refer to the *You should know this* module for more information on the switch-hook flash.

When you allow Call Transfer and the switch-hook flash functionality, this also enables the Three-party Conference feature. The Conference feature also operates using the switch-hook flash. There is more information on the Conference feature in Task 29, *Conference*.

To transfer a call, some users put the first party on hold by pressing the switch-hook, then dial the third party and hang up while that telephone is ringing. This is called a *blind transfer*.

If that telephone is not answered, the call rings until the Call Forward No Answer feature redirects the call, if that feature has been programmed for the ringing telephone. If it is not programmed, the ringing telephone continues to ring until it is answered or the caller hangs up. This might be a problem for the caller.

Call Transfer

As a result, many users prefer to transfer calls by putting the first party on hold using the switch-hook flash, then dialing the third party and waiting for an answer.

- ◆ If the call is answered, the transferring party tells the third party user something about the call.
 - If the third party wants to receive the call, the transferring party either hangs up to transfer the call or presses the switch-hook to set up a conference. All three parties are connected. After ensuring the connection is made, the transferring party can hang up and the transfer takes effect.
 - If the third party does not want to receive the call, the third party hangs up. The transferring party reconnects to the party on hold by pressing the switch-hook again.
- ◆ If the call does not get answered, the transferring party presses the switch-hook flash again and the ringing telephone is dropped, since you cannot conference a ringing internal telephone with an active two-party call.

As you can see, the Call Transfer and Conference features are very similar, but there are also critical differences between them.

- ◆ The Conference feature requires the third party to answer before the conference can take place, whereas Call Transfer does not require the third party to answer before the Call Transfer can take place. Calls can be transferred to a third party telephone that has not answered and is in the ringing state.
- ◆ Transferring while the telephone is ringing does not involve the Conference card equipped on the system. If the third party telephone answers before the transfer is completed, and the three parties are connected before the transferring party drops out, then the Conference card is involved.

Transfer denied

You can assign a Transfer denied Class of Service to a telephone. On this type of telephone, when the user presses the switch-hook, the call does not go on hold, it routes to the attendant.

The default Class of Service for this feature is Call Transfer denied.

Call Transfer

Transfer Restricted

If your system is using software Release 14 or later, you can restrict a user from using the Call Transfer feature by assigning a Transfer Restricted Class of Service to the telephone. A switch-hook flash is ignored by the system on this type of telephone.

This prevents the user from transferring calls and does not route calls to the attendant. This can be useful in hotels where many users make calls in sequence and do not press the switch-hook very long when disconnecting one call and making the next one. The system treats the brief disconnect as a switch-hook flash. If you program the telephones as Transfer denied, the attendant is involved each time the user does this, but if you program them as Transfer Restricted, the attendant is not involved.

Digital and SL-1-type telephones

You program a key for the Call Transfer feature on these telephones.

The switch-hook flash does not operate for the Call Transfer feature on these telephones. If you do not have a Call Park key, you can use the Call Transfer key as a switch-hook flash when you use the Call Park feature.

To program fewer keys on the telephone, you can program a Conference key and it can be used for both Call Transfer and Conference.

You can assign both Call Transfer and Conference keys on one telephone. This allows the user to do transfers two different ways:

- ◆ quick blind transfers, using the Call Transfer key
- ◆ Conference key transfers, when they want to get an answer before transferring the call

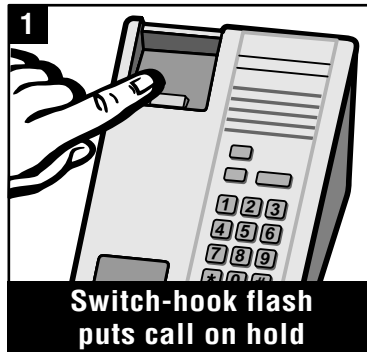
The user can set up Conferences as well, using the Conference key. Refer to Task 29, *Conference* for more information on the Conference feature.

Call Transfer

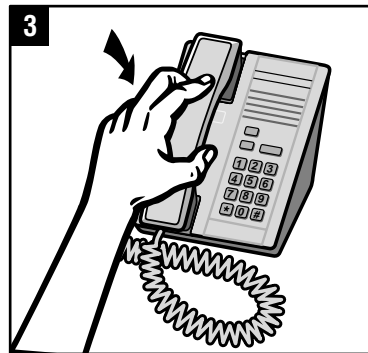
Using the feature

Dial and Digitone-type telephones

Call Transfer without waiting for an answer



553-0039T CTrans



The length of time the switch-hook can be pressed and held down and still recognized by the system as a flash is a programmable amount of time.

- ◆ If a user keeps the switch-hook pressed longer than this timer, the system interprets it as a disconnect signal.
- ◆ If a user does not keep it pressed long enough, the system ignores the signal and the user must perform the switch-hook flash once more for a longer time.

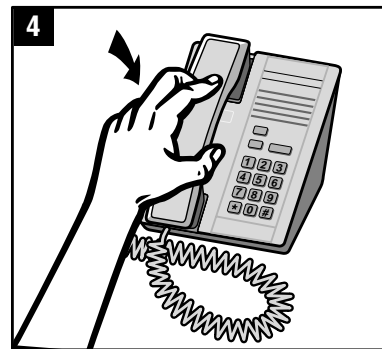
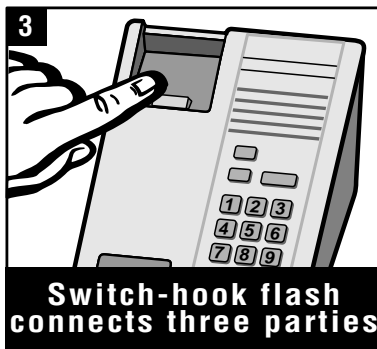
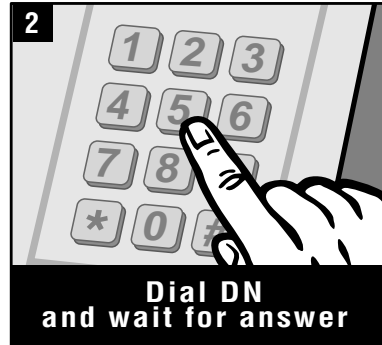
If the switch-hook has been pressed for the right amount of time, the user hears a confirmation tone. This sounds like three quick bursts of tone followed by steady dial tone.

Call Transfer

Using the feature (continued)

Dial and Digitone-type telephones

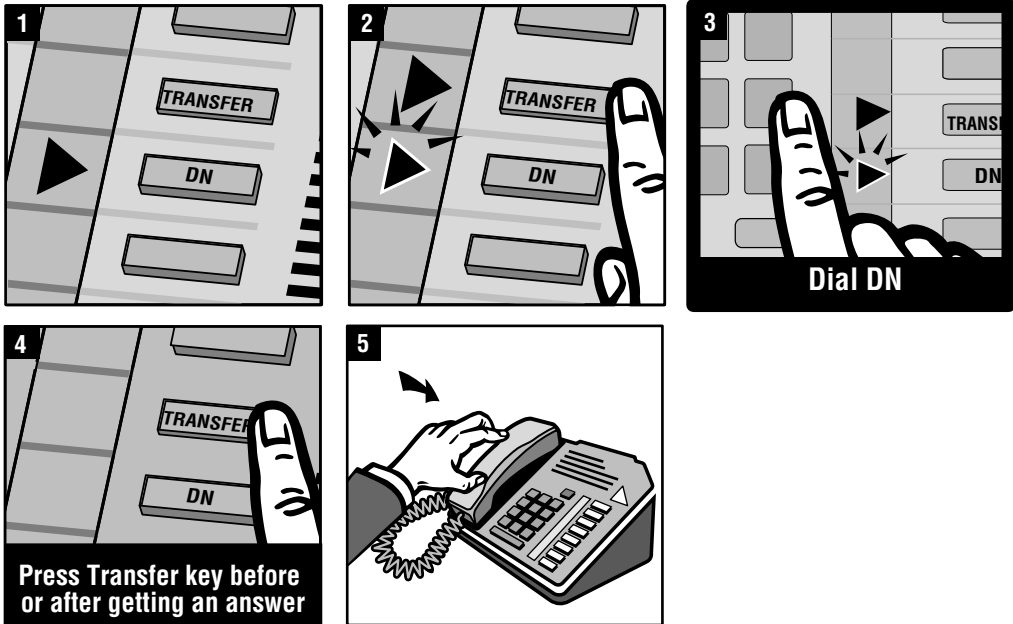
Call Transfer after getting an answer.



553-0040T CTrans

Call Transfer**Using the feature (continued)****SL-1-type and digital telephones**

When the user presses the Call Transfer key, the user hears a confirmation tone. This sounds like three quick bursts of tone followed by a steady dial tone.



553-0041T CTrans

Interactions with other features

Call Transfer works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems, if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Call Transfer

Call Forward by Call Type interacts with Call Transfer

When an external call is transferred to a ringing telephone that is not answered, if Call Forward by Call Type is allowed it is forwarded to the internal Call Forward No Answer DN programmed for the ringing telephone. This is because the call was transferred by an internal telephone.

Distinctive Ringing interacts with Call Transfer

Some systems have Distinctive Ringing allowed on one or more external trunk groups. Telephones have a distinctive ring when external calls come in from one of these trunk groups.

If an external call from one of these trunk groups is transferred to a telephone by an internal telephone, the telephone does not ring distinctively. Make users aware of this so they do not answer calls differently when they think they are internal.

Multi-Party Operations interacts with Call Transfer

Table 155

Software requirements

Release required	Software package(s) required
14.46E	141 – Multi-Party Operations (MPO)

There are several components to this software package. The feature components are mentioned in the tasks they affect. For example, the MPO feature called Call Join is mentioned in Task 29, *Conference*.

Three-Party Service

This feature is similar to the Call Transfer feature. If the MPO software package is equipped, users have enhanced functionality compared to the normal Call Transfer feature.

To access these features the Class of Service of the dial or Digitone-type telephone must have Three-Party Service allowed.

Call Transfer

Three-Party Service allows users to do the following:

- ◆ form a conference
- ◆ form a conference and then transfer the call to the third party
- ◆ exchange the active call for the held call
- ◆ release the active party and reconnect the held party

Users must dial Control Digits after they use the switch-hook for these features. The Control Digits are programmed on a customer-wide basis.

There is an optional time-out treatment that releases the active party and connects the user to the Held Party if the user, after consulting with a third party, uses the switch-hook and does not follow it with a Control Digit.

If the Class of Service of a telephone has Three-Party Service allowed, it cannot have a Transfer Restricted Class of Service as well.

With MPO, there is the ability to have the customer group programmed so that a switch-hook flash is ignored. This eliminates confusion between a flash signal and the digit 1 outputted from dial telephones. If a flash is to be ignored, dial and Digitone-type telephones must have a ground (earth) button in order to use features which require a switch-hook flash.

Recovery of Mis-operation during Call Transfer

- ◆ This MPO feature protects users of dial and Digitone-type telephones from having calls lost due to mis-operation of the Call Transfer feature.

For example, if a user tries to transfer a call to a Directory Number (DN) that does not exist, or a busy telephone, the mis-operation treatment specified in the programming occurs.

Call Transfer

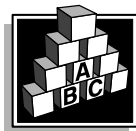
- If an illegal Call Transfer is attempted and the transferring party has already hung up, the transferring telephone rings for a programmable number of rings and it can ring with a programmable cadence. This cadence alerts the user to the fact that the Call Transfer did not work.
- If the transferring telephone goes unanswered, the call can either be routed to the attendant or disconnected. You can decide which treatment you want and arrange to have it programmed.
- ◆ The external party hears ringback tone while the transferring telephone is being rerung after mis-operation, on systems with the Supplementary Features software package 131 (SUPP) equipped.
- ◆ Digital or SL-1-type telephones that attempt to transfer can only succeed if the third party telephone is ringing or answered. If the telephone is busy or disabled, or the number dialed is invalid, the transfer feature doesn't work. The call on hold at their telephone remains on hold. The user can try the Call Transfer feature later, if so desired.
- ◆ External calls that are transferred to ringing telephones that go unanswered for a programmable period of time are routed to the attendant.

Call Detail Recording (CDR) interacts with Call Transfer

Before Release 20, if a call is transferred more than once, the CDR records do not indicate the intermediate telephones in the call. There is an S-record that prints out when the first transfer occurs, showing the original two parties in the call (one of them is a trunk identifier and the other is the DN of the transferring telephone). When the call ends, an E-record prints out showing the final two parties in the call.

With Release 20 and with software package 259 (CDRX) equipped and Format CDR Package 234 equipped, every transfer generates an X-record identifying the intermediate telephone and the trunk that is still involved with the call. The S-record and E-record print out as usual.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Enhanced Music

If the Enhanced Music software package 119 (EMUS) is equipped, users on hold during a transfer hear recorded music or announcements.

Patience tone

If the International Supplementary Features software package 131 (SUPP) is equipped, a patience tone can be given to the party on hold. This tells the party on hold that the call has not been disconnected. The transferring party dials a control digit to allow this to be heard by the party on hold.

Trunk to Trunk Connection

With Release 22 and later software, the Call Transfer feature has been enhanced for calls involving trunks. The capabilities are:

- ◆ An established trunk call can be transferred to an analog TIE trunk that has answer and disconnect supervision programmed. If the called party does not answer within a specified time, the call will recall to the attendant of the transferring party's system.
- ◆ An outgoing trunk can be transferred to another trunk, provided both calls are answered and both trunks have answer and disconnect supervision.
- ◆ Calls involving trunks can remain established in a conference call, even after the internal telephone, that is doing the original transferring, disconnects. The trunks must have disconnect supervision.
- ◆ If there is call charging equipment involved with the outgoing calls, the information is presented to the CDR.

Talk to your system maintainer about the supervision on your trunks.

Call Transfer

Control tips



- ◆ If trunks are involved in a call, successful completion of a Call Transfer depends on the access restrictions assigned to the stations and trunks.

The system does not allow a trunk with no disconnect supervision programmed to be connected with another trunk, using the Call Transfer feature.

For example, an incoming external call on a trunk with Supervision programmed with a NO response cannot be transferred by an internal user to an external party, by using another trunk. The user has to set up a Conference connection to join the two external parties and release only when the conversation is finished.

- ◆ If a user abuses the Call Transfer feature and transfers calls from friends to outside numbers, especially toll calls, you can deny Call Transfer on that telephone to prevent that. You do not need to program the supervision on the trunks to prevent every user from doing it. Since you get the bill for the call that the user placed for the friend, preventing this saves your company money.
- ◆ The Call Transfer feature is denied as the default setting in the Class of Service for dial and Digitone-type telephones. If it is left as denied, the telephone cannot be used for any features that require a switch-hook flash or Call Transfer and Conference.
- ◆ Unless you have the Release 20 CDR Transfer enhancements in place, CDR records for incoming calls extended to telephones that in turn transfer the calls to other telephones do not track the intermediate telephones involved.

If users complain that they are being billed for entire calls when in fact they were only part of the call after a transfer, you might want to investigate who transferred the call or investigate getting the enhancement.

Call Transfer



Some users realize that if they transfer calls, the CDR records do not show their DNs and they do not get billed. Once they are finished with a call, especially a toll call, they transfer it to a telephone that will certainly get an answer. The CDR record prints the DN of the other telephone and you bill the wrong user.

Administration tips



- ◆ If proper training cannot correct problems users are having with the use of the switch-hook flash:
 - telephones with Link buttons can assist the users in making switch-hook flashes effectively
 - as a last resort, the flash timer itself can be adjusted. Discuss this with your system supplier
- ◆ If you assign Call Transfer keys to telephones, users do not have to wait for an answer before transferring calls. This is not good service to your callers. Decide on your policy regarding the transfer of calls.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Training users to transfer calls properly requires practice sessions. Make sure they know what the confirmation tone sounds like. Users must feel comfortable with this feature before leaving the training session or they will not transfer calls using their telephones. This leaves a poor impression with callers.

It might also lead to more incoming calls to the attendant when people have to call back to speak to another person because the first person could not transfer the call for them.

- ◆ Give users an idea of what your policies are regarding Call Transfer. Tell them it is best to wait for an answer and introduce the caller before transferring.

Call Transfer

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 156
Checklist

Basic	Optional	Preparation
✓		Find out if user needs Call Transfer, or Three-party Conference or switch-hook flash features.
✓		Decide if user is to be Transfer Restricted.
✓		Decide if you want to assign a Conference key to do both Conference and Call Transfer or if you want to assign a separate Call Transfer key.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
	✓	Decide if you want trunk to trunk transfers permitted on your system. Discuss with your system supplier.
	✓	Train users on confirmation tone, proper switch-hook flash timing and your policies regarding Call Transfer.
	✓	If MPO is equipped, <ul style="list-style-type: none"> ◆ decide which users require Three Party Service ◆ decide on the control digits you want ◆ decide on the Three-Party Service timer ◆ decide if you want the optional time-out treatment for users who forget to dial the Control digit ◆ decide on the number of rings and the treatment of calls if transfer is not done properly ◆ train these users on the use of the Control digits
— continued —		

Call Transfer

Table 156
Checklist (Continued)

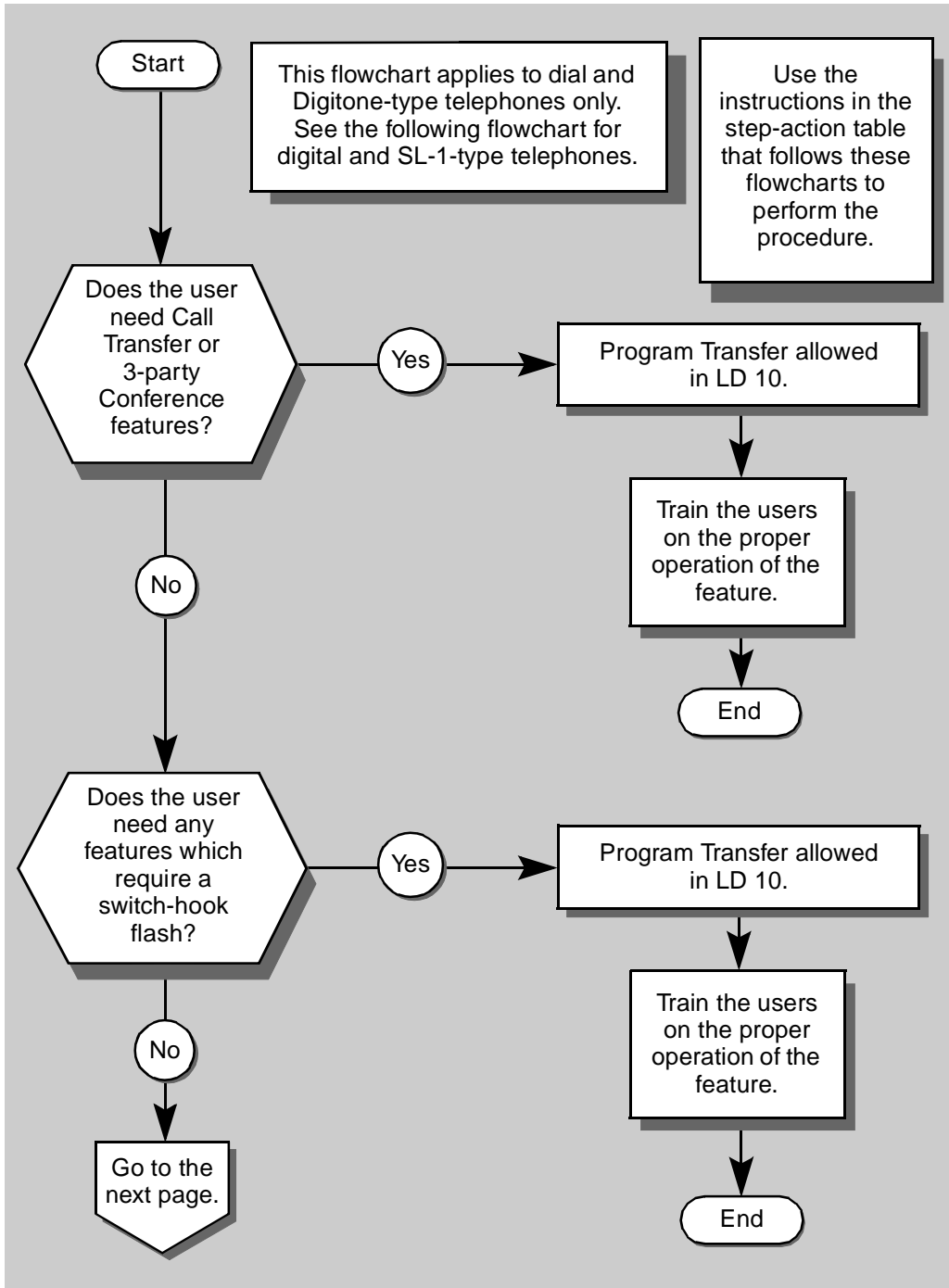
Basic	Optional	Preparation
	✓	Decide if you want patience tone to be implemented.
	✓	Decide if you want Enhanced Music. Decide what announcement or music callers will hear when connected to this announcement source.

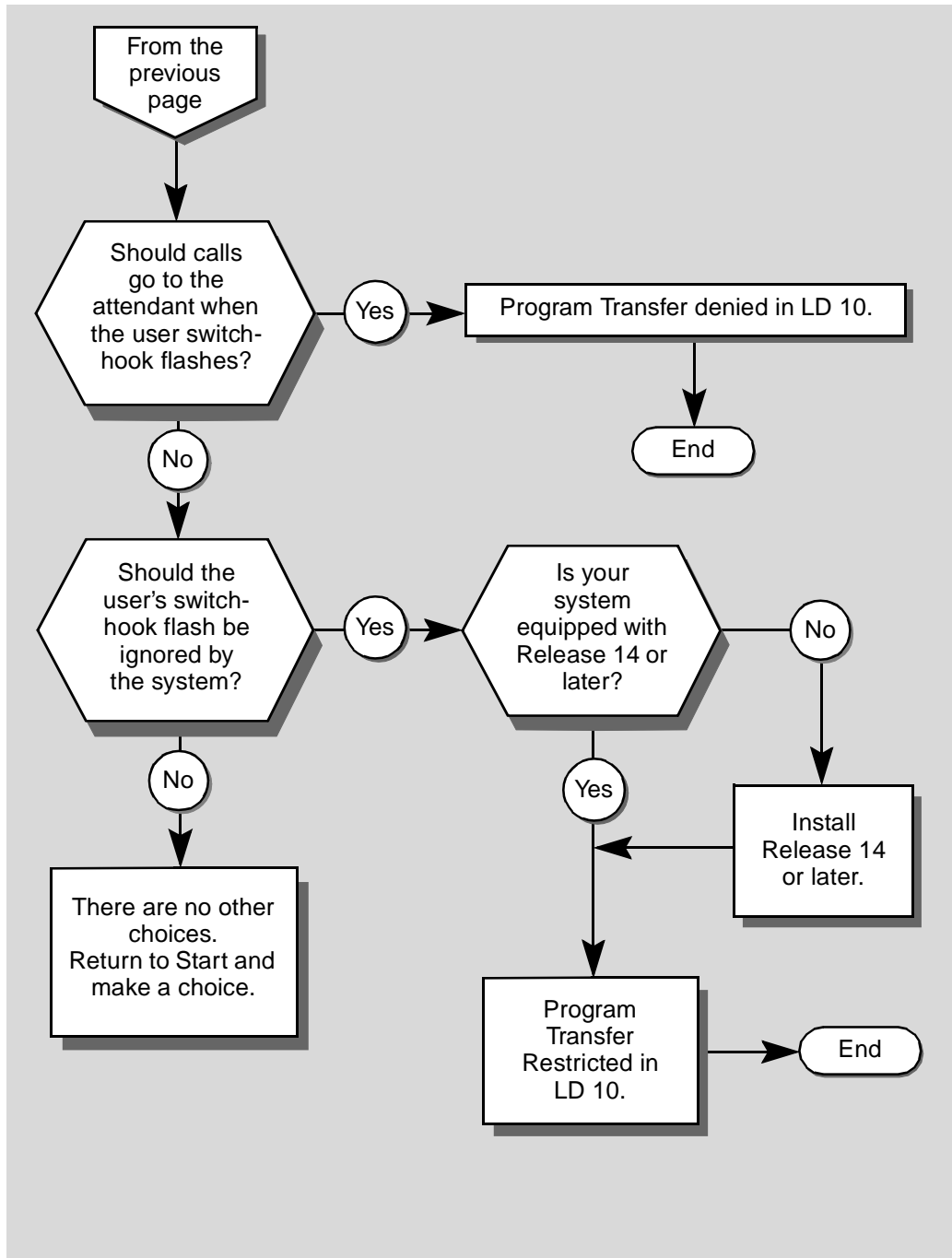
What's next?

Two flowcharts follow which summarize the implementation decisions and procedures for Call Transfer.

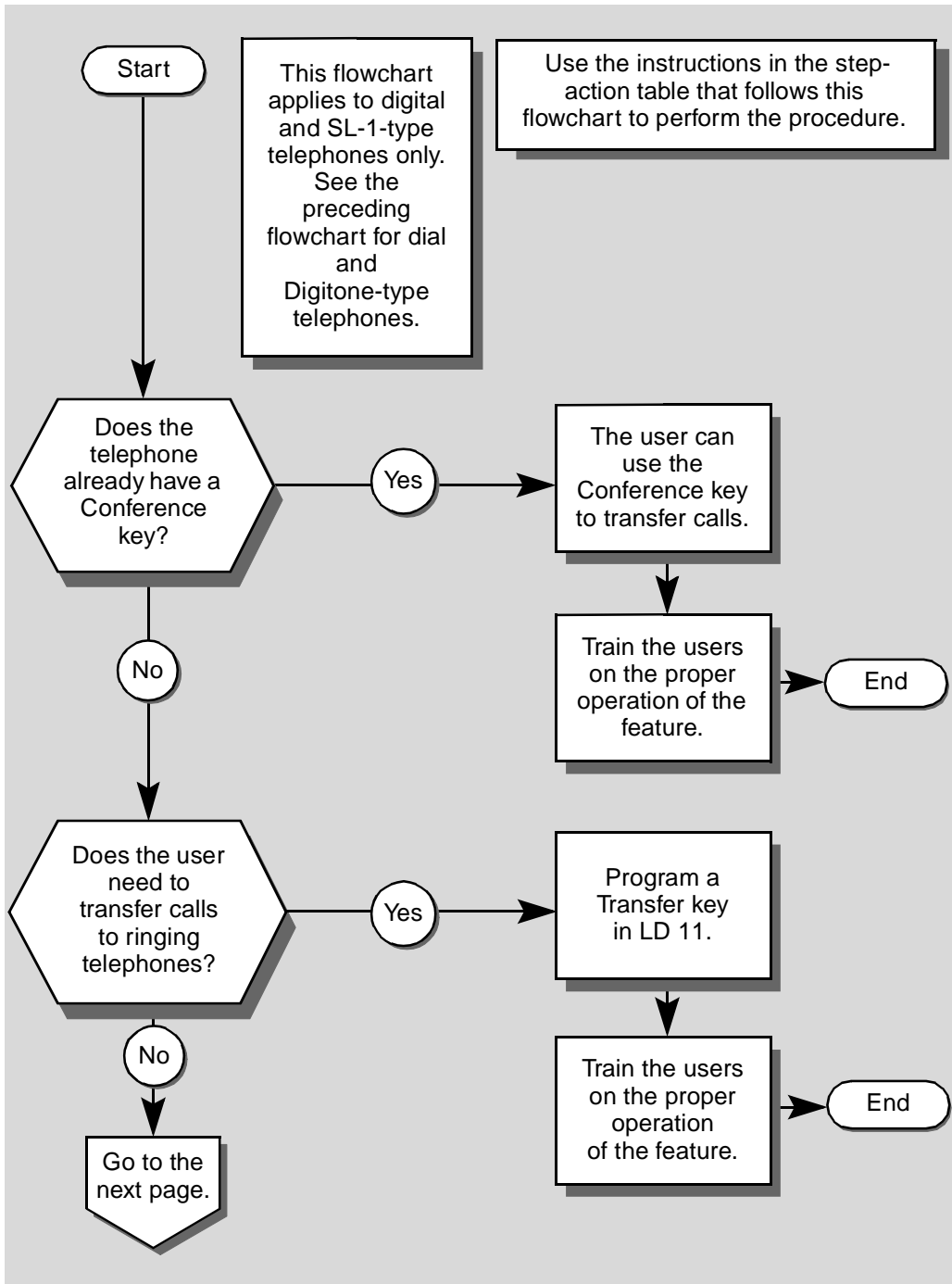
A step-action table follows the flowcharts. The table explains the programming steps necessary to implement this feature.

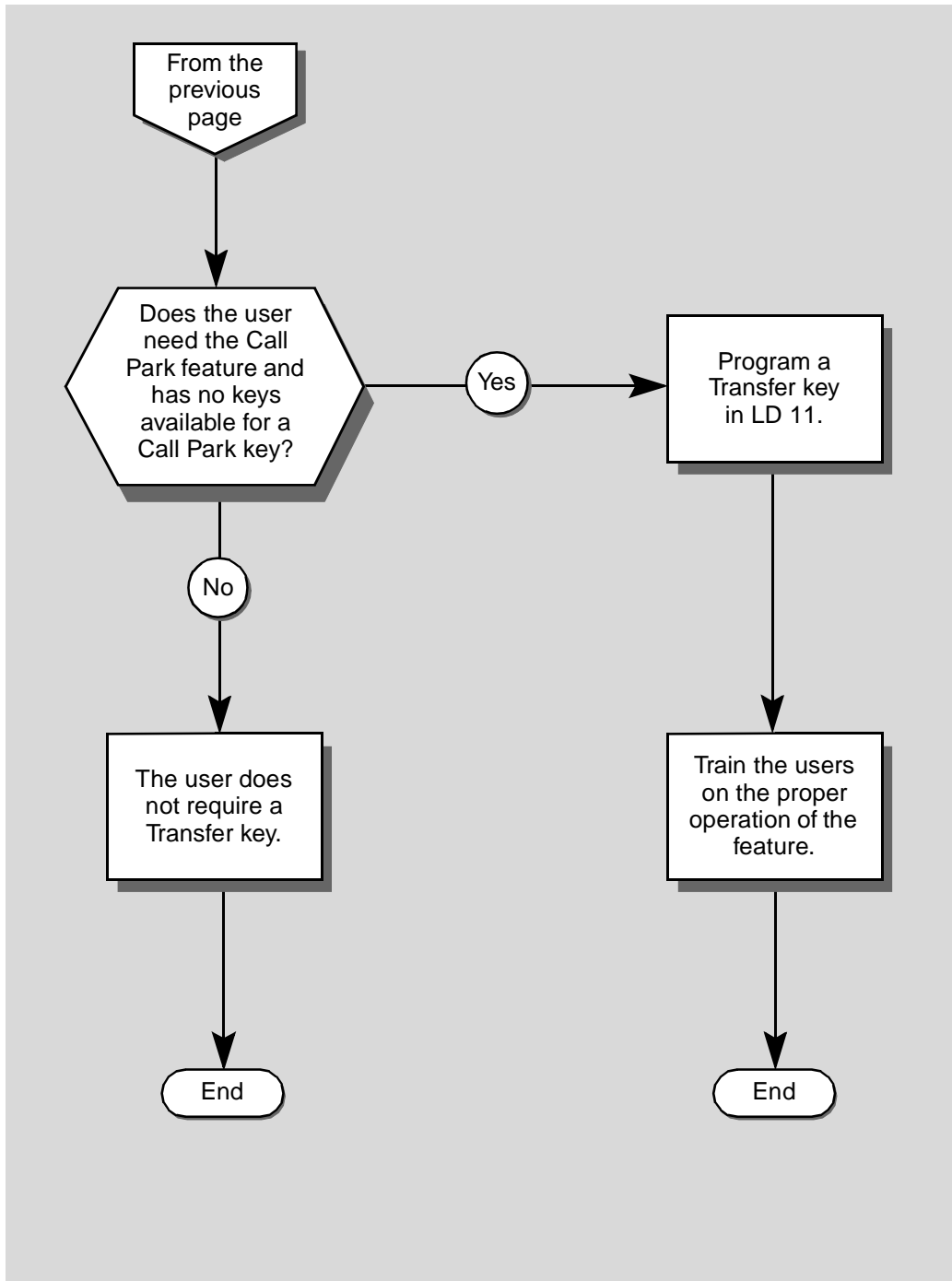
Call Transfer



Call Transfer

Call Transfer



Call Transfer

Call Transfer

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Transfer feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION	
1	Log in
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.
2	Choose your starting point from the choices below.
If	Do
new dial or Digitone-type telephone	step 3
change to a dial or Digitone-type telephone	step 4
new digital or SL-1-type telephone	step 13
change to a digital or SL-1-type telephone	step 14
— continued —	

Call Transfer

STEP	ACTION	
3	Program a new dial or Digitone-type telephone.	
	> LD 10	
REQ	NEW	Program a new telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone program the basics... Refer to Tasks 1–6 for information.
	carriage return until you see the prompt CLS	
CLS	XFD or <cr>	Call Transfer denied — default
	XFA	Call Transfer allowed
	XFR	Call Transfer restricted (Release 14 or later)
	Go to step 21.	
4	Program a change to the Call Transfer feature on a dial or Digitone-type telephone.	
	> LD 10	
REQ	CHG	Program a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone
ECHG		
If		Do
	using “Easy Change”	Input YES and go to step 5.
	not using “Easy Change”	Input NO or <cr> and go to step 9.
	For more information on “Easy Change,” refer to the <i>Basic programming instructions</i> module of this book.	
	— continued —	

Call Transfer

STEP	ACTION		
5	Program an “Easy Change” to an existing dial or Digitone-type telephone.		
	If		Do

	telephone is changing to Call Transfer allowed		step 6
	telephone is changing to Call Transfer denied		step 7
	telephone is changing to Call Transfer Restricted		step 8
6	Allow Call Transfer.		
	ITEM	CLS XFA	Change the Class of Service to Call Transfer allowed
	Go to step 21.		
7	Deny Call Transfer.		
	ITEM	CLS XFD	Change the Class of Service to Call Transfer denied
	Go to step 21.		
8	Restrict Call Transfer.		
	ITEM	CLS XFR	Change the Class of Service to Call Transfer Restricted (Release 14 or later)
	Go to step 21.		
— continued —			

Call Transfer

STEP	ACTION	
9	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.	
	Carriage return until you see the prompt CLS	
	If	Do

	telephone is changing to Call Transfer allowed	step 10
	telephone is changing to Call Transfer denied	step 11
	telephone is changing to Call Transfer Restricted	step 12
10	Allow Call Transfer.	
	CLS XFA	Change the Class of Service to Call Transfer allowed
	Go to step 21.	
11	Deny Call Transfer.	
	CLS XFD	Change the Class of Service to Call Transfer denied
	Go to step 21.	
12	Restrict Call Transfer.	
	CLS XFR	Change the Class of Service to Call Transfer restricted
	Go to step 21.	
— continued —		

Call Transfer

STEP	ACTION	
13	Program a new digital or SL-1-type telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7-19 for information.
	carriage return until you see the prompt KEY	
	KEY XX TRN	XX represents a key number
		TRN feature can be assigned to the following key numbers, depending on the kind of telephone:
		1-5 M2006
		1-7 M2008
		1-59 M2216, M2616
		1-69 SL-1
14	Program a change to the Call Transfer feature on a digital or SL-1-type telephone.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
— continued —		

Call Transfer**STEP ACTION****14 continued ...****If****Do**

using "Easy Change"

Input YES and go to step 15.

not using "Easy Change"

Input NO or <cr> and go to step 18.

For more information on "Easy Change," go to the *Basic programming instructions* module of this book.

15 Program an "Easy Change" to an existing digital or SL-1-type telephone.**If****Do**

telephone is changing
to Call Transfer allowed

step 16

you are removing Call
Transfer from telephone

step 17

16 Allow Call Transfer

ITEM KEY XX TRN

XX represents a key number

TRN feature can be assigned to the following key numbers, depending on the kind of telephone:

Key # Telephone type

1-5	M2006
1-7	M2008
1-59	M2216, M2616
1-69	SL-1

Go to step 21.

— continued —


Call Transfer

STEP	ACTION											
17	Remove Call Transfer											
	ITEM KEY XX NUL	<p>XX represents a key number NUL leaves the key blank</p> <p>Input another feature mnemonic if you are replacing the TRN key with another feature. Refer to the <i>Software Input/Output Guide</i>.</p> <p>Go to step 21.</p>										
18	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.											
	If	Do										
										
	telephone is changing to Call Transfer allowed	step 19										
	you are removing Call Transfer from telephone	step 20										
19	Allow Call Transfer											
	Carriage return until you see the prompt KEY XX TRN	<p>XX represents a key number</p> <p>TRN feature can be assigned to the following key numbers, depending on the kind of telephone:</p> <table border="1"> <thead> <tr> <th>Key #</th> <th>Telephone type</th> </tr> </thead> <tbody> <tr> <td>1–5</td> <td>M2006</td> </tr> <tr> <td>1–7</td> <td>M2008</td> </tr> <tr> <td>1–59</td> <td>M2216, M2616</td> </tr> <tr> <td>1–69</td> <td>SL-1</td> </tr> </tbody> </table> <p>Go to step 21.</p>	Key #	Telephone type	1–5	M2006	1–7	M2008	1–59	M2216, M2616	1–69	SL-1
Key #	Telephone type											
1–5	M2006											
1–7	M2008											
1–59	M2216, M2616											
1–69	SL-1											
— continued —												

Call Transfer

STEP	ACTION						
20	<p>Remove Call Transfer</p> <p>Carriage return until you see the prompt KEY</p> <p>KEY XX NUL XX represents a key number NUL leaves the key blank</p> <p>Input another feature mnemonic if you are replacing the TRN key with another feature. Refer to the <i>Software Input/Output Guide</i>.</p> <p>Go to step 21.</p>						
21	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 22.</p>						
22	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the new telephone or the changed telephone behaves as expected when you attempt to use the Call Transfer feature.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 23</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	feature works properly	step 23	feature does not work properly	step 1
If	Do						
feature works properly	step 23						
feature does not work properly	step 1						

Call Transfer

STEP	ACTION
23	Arrange for a data dump to be performed.
If	Do
you do not have access to LD 43	Contact your system supplier.
you have access to LD 43	step 24
24	Perform a data dump to permanently store the programming you have just completed.
<div style="border: 2px solid black; padding: 10px; display: inline-block;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div>	
<p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p>	
<pre>> LD 43 . EDD <cr></pre>	
— continued —	

Call Transfer

STEP	ACTION						
25	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 26</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 26
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 26						
26	<p>Terminate this overlay program.</p> <p>. ****</p>						
27	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>						
28	<p>You have completed the programming required to add or change the Call Transfer feature on a telephone.</p>						



986 During a call

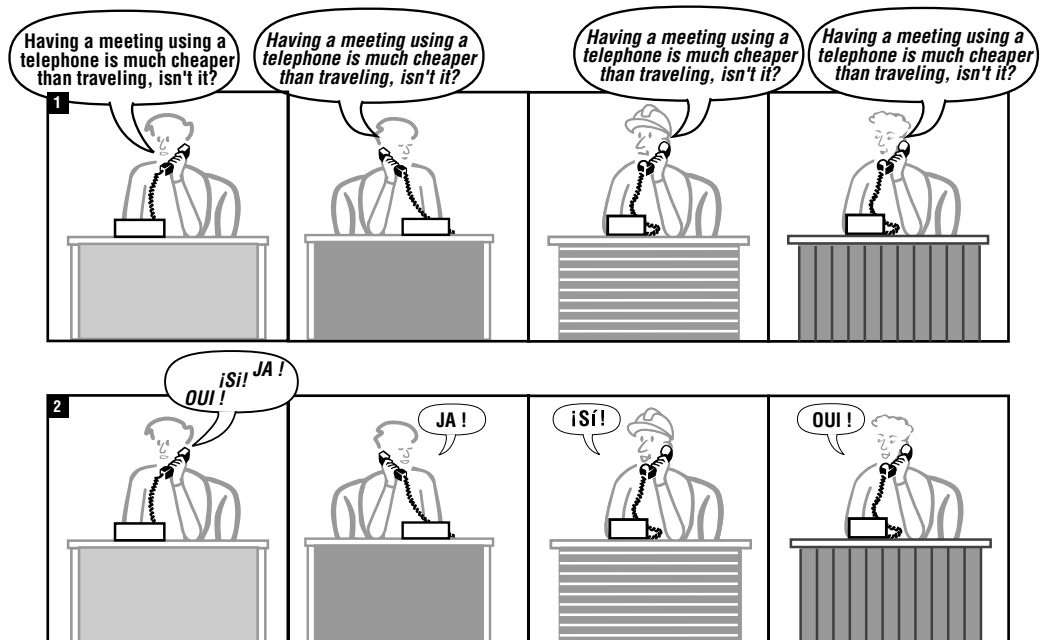
of 1776

Call Transfer

Conference

Purpose

The Conference feature allows users to add additional people to an existing call.



553-0042T Conf

Conference

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Conference feature
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Conference comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to have the Conference feature, then you use the procedure in this module to program each one.

Dial and Digitone-type telephones

You enable the basic three-party Conference feature in the Class of Service of these telephones by allowing the Call Transfer feature.

If you do not allow the Call Transfer feature in the Class of Service, the telephone user cannot use the switch-hook flash for any features that require it, not just Call Transfer. Refer to the *You should know this* module for more information on the switch-hook flash.

There is more information. Refer to Task 28, *Call Transfer*.

The Call Transfer and Conference features are very similar, but there are also critical differences between them.

- ◆ The Conference feature requires the third party to answer before the conference can take place, whereas Call Transfer does not require the third party to answer before the Call Transfer can take place. Calls can be transferred to a third party telephone which has not answered and is in the ringing state.
- ◆ Transferring while the telephone is ringing does not involve the Conference card equipped on the system. If the third party telephone answers before the transfer is completed, and the three parties are connected before the transferring party drops out, then the Conference card is involved.

Conference

Since Call Transfer and Conference are so closely linked, it is useful to show the operation of both.

Many users prefer to transfer calls by putting the first party on hold using the switch-hook flash, dialing the third party and waiting for an answer.

- ◆ If the call is answered, the transferring party tells the third party user something about the nature of the call.
 - If the third party wants to receive the call, the transferring party either hangs up to transfer the call, or presses the switch-hook to set up a conference. All three parties are connected. After ensuring the connection is made, the transferring party can hang up and the transfer takes effect.
 - If the third party does not want to receive the call, the third party hangs up. The transferring party reconnects to the party on hold by pressing the switch-hook again.
- ◆ If the call does not get answered, the transferring party presses the switch-hook flash again and the ringing telephone is dropped since you cannot conference a ringing internal telephone with an active two-party call.

Three-party and six-party conference are the two choices for maximum number of parties in a conference. This is programmable on a per telephone basis.

Six-party Conference capability was introduced for dial and Digitone-type telephones with Release 10 software. There is a Class of Service to allow this. It will not work unless Call Transfer (for basic three-party Conference) is allowed as well.

You can add external parties to existing calls. However, with each analog trunk added, the volume levels sometimes drop. When more than two analog trunks are added to a conference, the audio volume levels are quite often too low to be acceptable. Test this on your site for yourself.

Conference

Digital and SL-1-type telephones

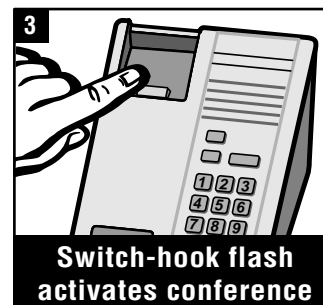
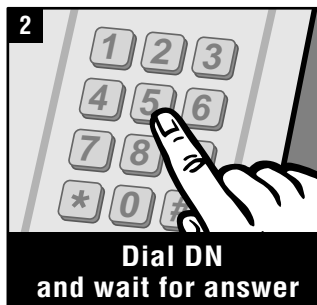
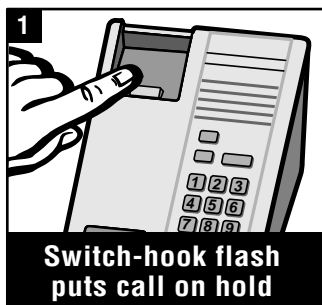
You program a key for the Conference feature on these telephones. Since the earliest software release, there have always been two choices of keys for these telephones, three-party Conference and six-party Conference.

The Conference feature key can also be used for transferring calls. For further information refer to Task 28, *Call Transfer*.

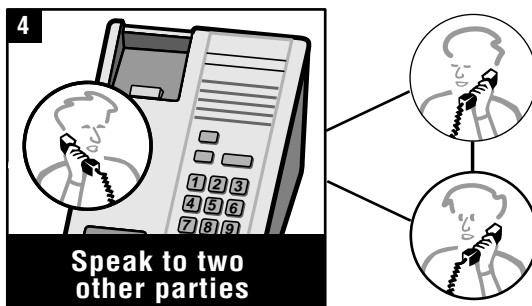
When the Conference key is used, the third party telephone must be answered before the Transfer/Conference can be completed.

Using the feature

Dial and Digitone-type telephone



553-0043T Conf



The length of time the switch-hook can be pressed and recognized by the system as a flash is a programmable amount of time.

- ◆ If a user presses the switch-hook longer than this timer, the system interprets it as a disconnect signal.
- ◆ If a user does not press it long enough, the system ignores the signal and the user must perform the switch-hook flash once more for the proper amount of time.

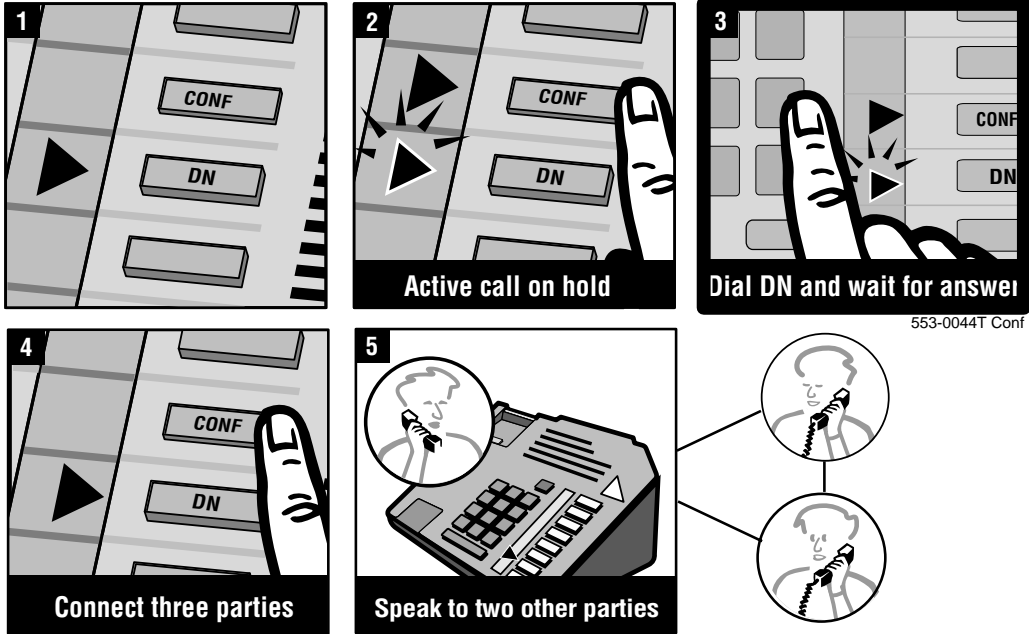
If the switch-hook has been pressed for the right amount of time, the user hears a confirmation tone. This sounds like three quick bursts of tone followed by steady dial tone.

Conference

Using the feature (continued)

SL-1-type and digital telephones

When the user presses the Conference key, the user hears a confirmation tone. This sounds like three quick bursts of tone followed by steady dial tone.



Interactions with other features

Conference works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems, if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Conference

Conference Control interacts with Conference

Sometimes, a user tries to conference a third party at an external number with an active call already in progress. Problems can arise for dial and Digitone-type telephone users when the external telephone does not get answered or when the call gets redirected to an answering machine or voice mail services.

When the user tries to return to the party on hold by performing a switch-hook flash, a conference is set up. The Conference user's system treats the seizure of the trunk for the outgoing external call as an answer at the third party and it allows the Conference feature to work. The conference includes the party who was on hold, the user on the system and a third party that might be a telephone that is still ringing or an answering device.

Hence the need for a feature that would allow the user to disconnect the connection to the last party before attempting to return to the party on hold.

Dial or Digitone-type telephone users press the switch-hook, and dial the Conference Control Digits (SPRE + 87 or the Flexible Feature Code for Conference Control). The party on hold is automatically re-connected to the user and the third party drops off.

This works to disconnect third party external calls only.

The user's telephone must have six-party Conference programmed in its Class of Service for this to work. Six-party Conference was introduced for dial and Digitone-type telephones in Release 10.

Digital or SL-1-type telephones do not put users in this situation. If the third party does not answer, the user can return to the party on hold by pressing the key that has the call on hold. The trunk for the outgoing call is automatically dropped.

Conference

Multi-Party Operations interacts with Conference

Table 157
Software requirements

Release required	Software package(s) required
14.46E	141 – Multi-Party Operations (MPO)

There are several functionalities offered by the MPO feature. Only the parts that affect the Conference feature are mentioned here.

Three-Party Service is similar to the Call Transfer feature. Users with Three-Party Service have enhanced functionality compared to the normal Call Transfer feature.

To access these features the Class of Service of the dial or Digitone-type telephone must have Three-Party Service allowed.

Three-Party Service allows these telephone users to do the following:

- ◆ form a conference
- ◆ form a conference and then transfer the call to the third party
- ◆ exchange the active call for the held call
- ◆ release the active party and reconnect the held party

Users must dial Control Digits after they use the switch-hook for these features. The Control Digits are programmed on a customer-wide basis.

There is an optional time-out treatment that releases the active party and connects the user to the held party if the user, after consulting with a third party, uses the switch-hook and does not follow it with any Control Digit.

If the Class of Service of a telephone has Three-party Service allowed, it cannot have a Transfer Restricted Class of Service as well.

With MPO, there is the ability to have the customer group programmed so that a switch-hook flash is ignored. This eliminates confusion between a flash signal and the digit 1 outputted from dial

Conference

telephones. If a flash is to be ignored, dial and Digitone-type telephones must have a ground (earth) button in order to use features which require a switch-hook flash.

Call Join is available on any digital or SL-1-type telephone with a three-party Conference or six-party Conference key. The telephone must be able to handle more than one call at a time using more than one DN key or a Call Waiting key.

The operation of Call Join is as follows:

- ◆ during an active call the user presses the Conference key
- ◆ the caller (party A) is placed on hold
- ◆ the user hears a confirmation tone
- ◆ the user presses a second DN key where there is a party on hold (party B)
- ◆ party B is moved to the Conference key
- ◆ the DN key that party B was on becomes idle
- ◆ the user can talk to party B
- ◆ the user presses the Conference key a second time
- ◆ party A, party B and the user form a conference and the Conference key is idled
- ◆ if the user disconnects during the conference, party A is transferred to party B, if there are no restrictions to prevent it

Six-Party Conference can be allowed in the Class of Service of a dial or Digitone-type telephone. With Three-Party Service allowed and six-party Conference allowed the user can add more than two other parties to a Conference to a maximum of six parties, including the user who is setting up the conference.

Conference

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Conference tone

A warning tone is available for conference calls. When the option is enabled, the tone lets callers know that they are entering a conference call.

The NT8D17 Conference/TDS card in the Network Equipment of your system has a switch on it to enable this option. This type of card is required for this option to work.

The Conference/TDS card is not supported for systems using the International Supplementary Features (SUPP) software package 131.

Enhanced Music

If the Enhanced Music software package 119 (EMUS) is equipped, users on hold while a conference is being set up, hear recorded music or announcements.

No Hold Conference

When you have an established call on one key, you can place an outgoing call on a No Hold Conference key without putting the active call on hold. The caller and the called party are automatically conferenced with your telephone. There are different ways you can configure the NHC key, depending on the needs of the user and your needs for security and reliability.

Table 158
Types of No Hold Conference and descriptions

Type of NHC	Description
NHC + Autodial	A user-changeable stored number is dialed.
NHC + Direct Hot Line	A pre-programmed stored number is dialed.
NHC + Hot Line list	An entry on a pre-programmed Hot Line list is dialed. If many users have access to this entry, a change to the entry affects all users.
NHC + Speed Call list	A Speed Call list is accessed. The user dials the entry number for the number desired.
NHC	The user manually dials the number desired.

Patience tone

If the International Supplementary Features software package 131 (SUPP) is equipped, a patience tone can be given to the party on hold. This tells the party on hold that the call has not been disconnected. The party setting up the conference dials a Control Digit to allow this to be heard by the party on hold.

Selectable Conferee Display and Disconnect

With X11 Release 23, the Selectable Conferee Display and Disconnect feature introduces the following two enhancements to the display screen of Meridian Modular telephones (M2008, M2016, M2616, and M2216ACD):

- ◆ Conference Count Display
- ◆ Selectable Conferee Disconnect

Using these two enhancements, the number of parties involved in a conference is displayed on the second line of the display screen. (Previously, only the elapsed time was shown on the second line.) Also, a list of the parties involved in the conference is provided on the display screen. The user can scroll through this list, select a party, and disconnect that party.

Conference

Control tips



- ◆ Decide whether you want to program Conference keys on telephones instead of Transfer keys so that users have to wait for an answer before they can transfer calls.

Administration tips



- ◆ Call Detail Recording printouts show several S-records for each new conferee added to a conference and an E-record when the call is finished.
- ◆ If users complain that they hear Overflow tone when they try to conference, it might mean your system maintainer needs to look at the Conference card for possible maintenance problems. Or you might need more Conference cards in your system for the amount of conferencing your users are doing. Traffic study data can help you decide what is required.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Inform users of the maximum number of external trunks you recommend in a conference.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 159
Checklist

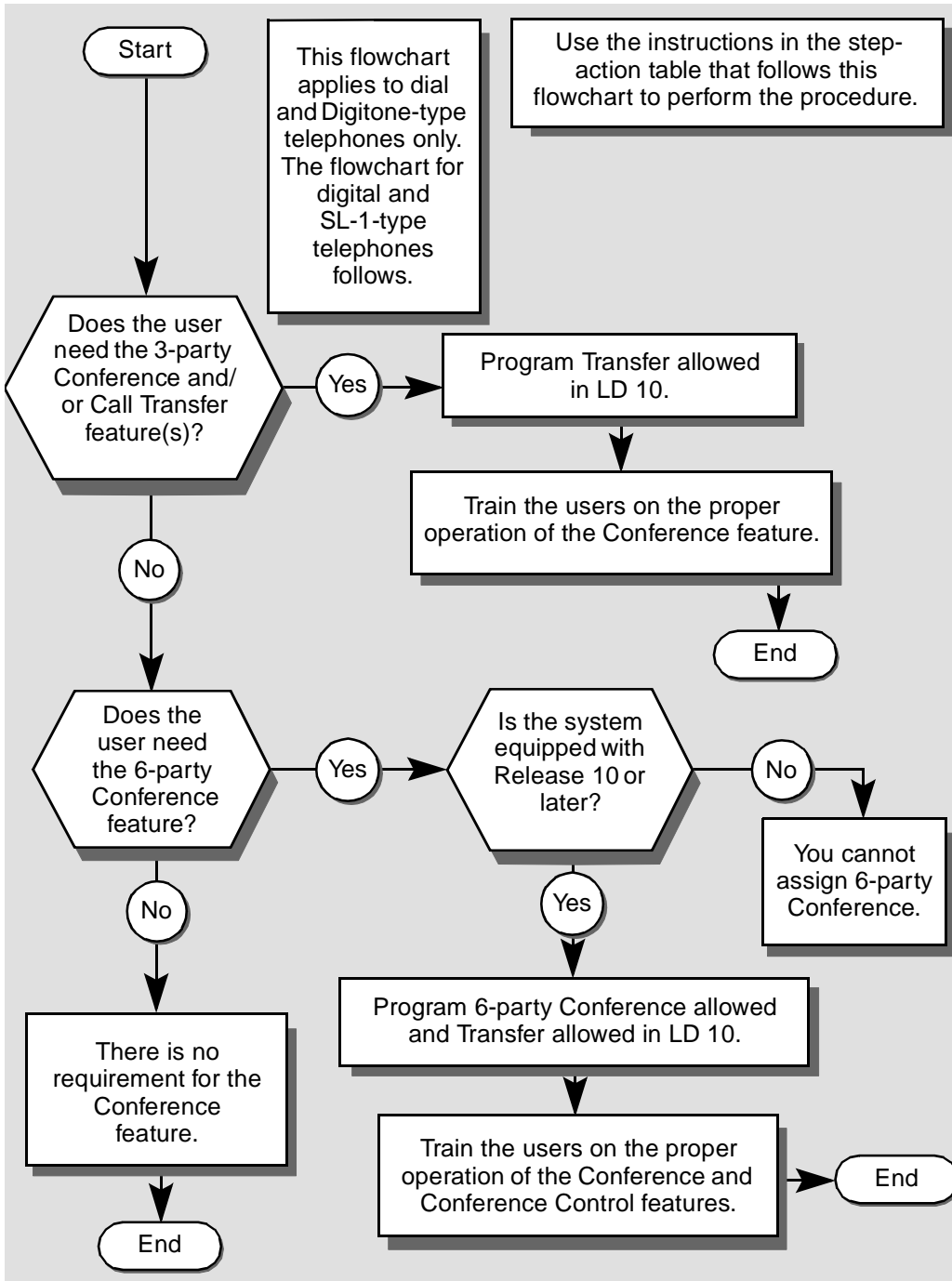
Basic	Optional	Preparation
✓		Decide if the user needs three-party or six-party Conference.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
	✓	Train users on confirmation tone, and proper switch-hook flash timing. Train users on how to use Conference Control.
	✓	Decide if you want patience tone to be implemented.
	✓	Decide if you want Enhanced Music. Decide what announcement or music callers will hear when connected to this announcement source.
	✓	Decide if you want the conference tone. Verify you have the proper card for this.
	✓	With Multi-Party Operations: <ul style="list-style-type: none"> ◆ train users on the Call Join feature. ◆ define the Control Digits ◆ train users on the use of Control Digits

What's next?

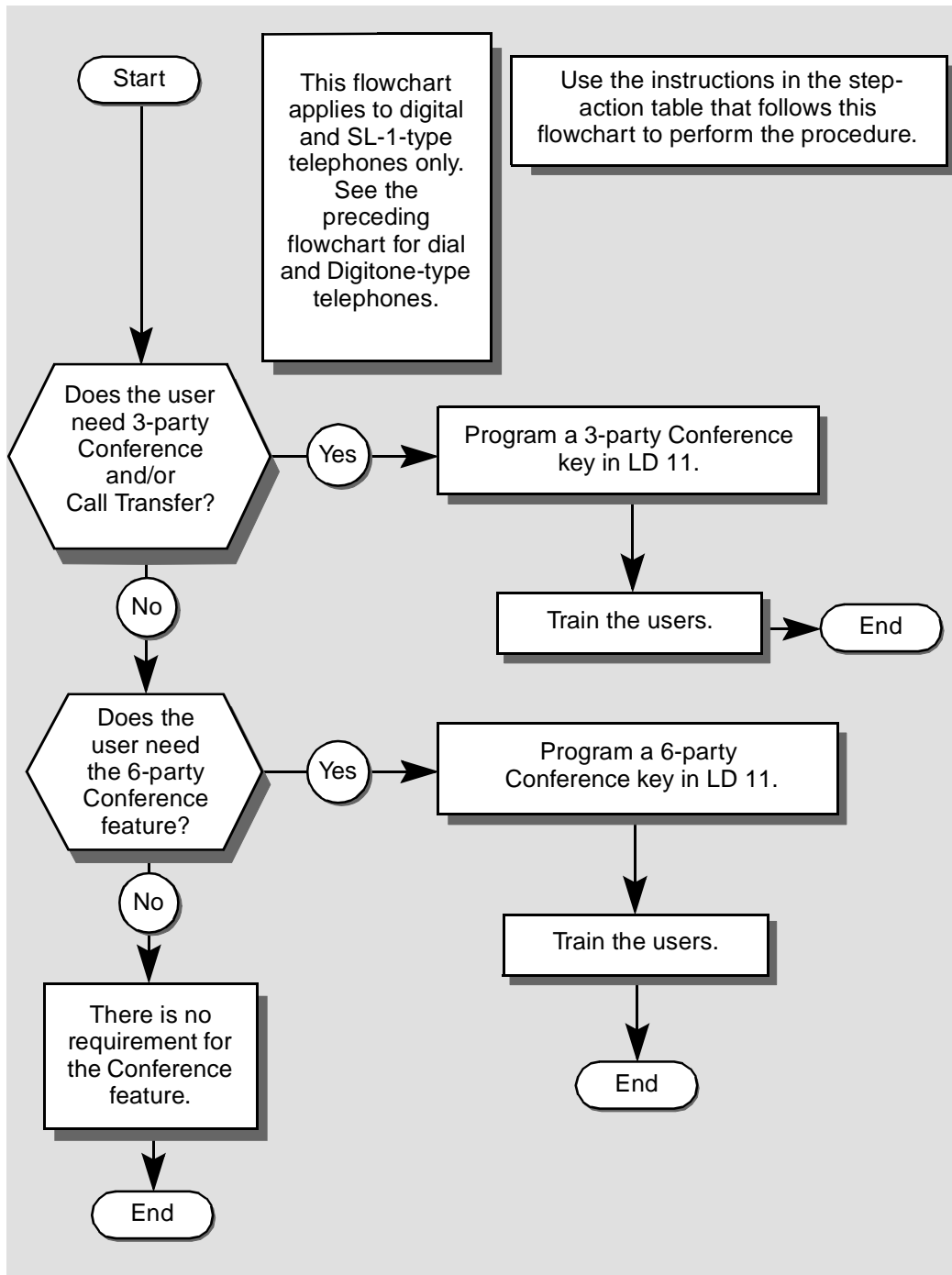
Two flowcharts follow which summarize the implementation decisions and procedures.

A step-action table follows the flowcharts. The table explains the programming steps necessary to implement this feature.

Conference



Conference



Conference

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Conference feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION										
1	Log in.										
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.										
2	Choose your starting point from the choices below.										
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>new dial or Digitone-type telephone</td> <td>step 3</td> </tr> <tr> <td>change to a dial or Digitone-type telephone</td> <td>step 4</td> </tr> <tr> <td>new digital or SL-1-type telephone</td> <td>step 11</td> </tr> <tr> <td>change to a digital or SL-1-type telephone</td> <td>step 12</td> </tr> </tbody> </table>	If	Do	new dial or Digitone-type telephone	step 3	change to a dial or Digitone-type telephone	step 4	new digital or SL-1-type telephone	step 11	change to a digital or SL-1-type telephone	step 12
If	Do										
new dial or Digitone-type telephone	step 3										
change to a dial or Digitone-type telephone	step 4										
new digital or SL-1-type telephone	step 11										
change to a digital or SL-1-type telephone	step 12										
— continued —											

Conference**STEP ACTION****3 Program a new dial or Digitone-type telephone.**

> LD 10

REQ	NEW	Program a new telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.

carriage return until you see the prompt CLS

CLS	XFA	Call Transfer allowed, 3-party Conference allowed
------------	-----	---

	XFA C6A	6-party Conference allowed
--	---------	----------------------------

Go to step 19.

— continued —

Conference

STEP	ACTION	
4	Program a change to the Conference feature on a dial or Digitone-type telephone.	
	> LD 10	
	REQ	CHG Program a change to an existing telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 5.
	not using "Easy Change"	Input NO or <cr> and go to step 8.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
5	Program an "Easy Change" to an existing dial or Digitone-type telephone.	
	If	Do
	telephone is changing to Conference allowed	step 6
	telephone is changing to Conference denied	step 7
	— continued —	

Conference

STEP	ACTION		
6	Allow Conference		
ITEM	CLS XFA	Change the Class of Service to 3-party Conference allowed	
ITEM	CLS C6A	Change the Class of Service to 6-party Conference allowed — requires XFA	
	Go to step 19.		
7	Deny Conference		
ITEM	CLS XFD	Change the Class of Service to Conference denied	
	Go to step 19.		
8	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.		
	Carriage return until you see the prompt CLS		
If		Do	
.....			
telephone is changing to Conference allowed		step 9	
telephone is changing to Conference denied		step 10	
— continued —			

1006 During a call

of 1776

Conference

STEP	ACTION		
9	Allow Conference		
CLS	XFA		Change the Class of Service to 3-party Conference allowed
CLS	XFA C6A		Change the Class of Service to 6-party Conference allowed
	Go to step 19.		
10	Deny Conference		
CLS	XFD		Change the Class of Service to Conference denied
	Go to step 19.		
11	Program a new digital or SL-1-type telephone.		
	> LD 11		
REQ	NEW		Program a new telephone
TYPE			Input correct type of SL-1 or digital telephone
TN	L S C U		Input the Terminal Number (TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...		Refer to Tasks 7-19 for information.
	carriage return until you see the prompt KEY		
— continued —			

Conference

STEP	ACTION										
13	Program an "Easy Change" to an existing digital or SL-1-type telephone.										
If	Do										
you are changing the telephone to Conference allowed	step 14										
you are removing Conference from the telephone	step 15										
14	Allow Conference.										
Input one of the following two choices:											
ITEM KEY XX AO3	XX represents a key number AO3 is 3-party Conference										
ITEM KEY XX AO6	AO6 is 6-party Conference AO3 or AO6 features can be assigned to the following key numbers, depending on the kind of telephone:										
	<table border="1"> <thead> <tr> <th>Key #</th> <th>Telephone type</th> </tr> </thead> <tbody> <tr> <td>1-5</td> <td>M2006</td> </tr> <tr> <td>1-7</td> <td>M2008</td> </tr> <tr> <td>1-59</td> <td>M2216, M2616</td> </tr> <tr> <td>1-69</td> <td>SL-1</td> </tr> </tbody> </table>	Key #	Telephone type	1-5	M2006	1-7	M2008	1-59	M2216, M2616	1-69	SL-1
Key #	Telephone type										
1-5	M2006										
1-7	M2008										
1-59	M2216, M2616										
1-69	SL-1										
Go to step 19.											
— continued —											


Conference

STEP	ACTION
15	Remove Conference.
ITEM	<p>KEY XX NUL XX represents a key number NUL leaves the key blank</p> <p>Input another feature mnemonic if you are replacing the Conference key with another feature. Refer to the <i>X11 input/output guide</i>.</p>
	Go to step 19.
16	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.
If	Do
<p>.....</p> <p>you are changing telephone to Conference allowed</p>	step 17
<p>you are removing Conference from telephone</p>	step 18
— continued —	


Conference

STEP	ACTION								
19	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 20.</p>								
20	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the new telephone or the changed telephone behaves as expected when you attempt to use the Conference feature.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>feature works properly</td> <td>step 21</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 21	feature does not work properly	step 1
If	Do								
.....								
feature works properly	step 21								
feature does not work properly	step 1								
21	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 22</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 22
If	Do								
.....								
you do not have access to LD 43	Contact your system supplier.								
you have access to LD 43	step 22								

Conference

STEP	ACTION						
22	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
23	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">If</th> <th style="text-align: left; width: 50%;">Do</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px dotted black;">data dump fails</td> <td style="border-top: 1px dotted black;">Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 24</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 24
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 24						

Conference

STEP	ACTION
24	Terminate this overlay program. • ****
25	Terminate this programming session. Log off. > LOGO
26	You have completed the programming required to add or change the Conference feature on a telephone.
	

1014 During a call

of 1776

Conference

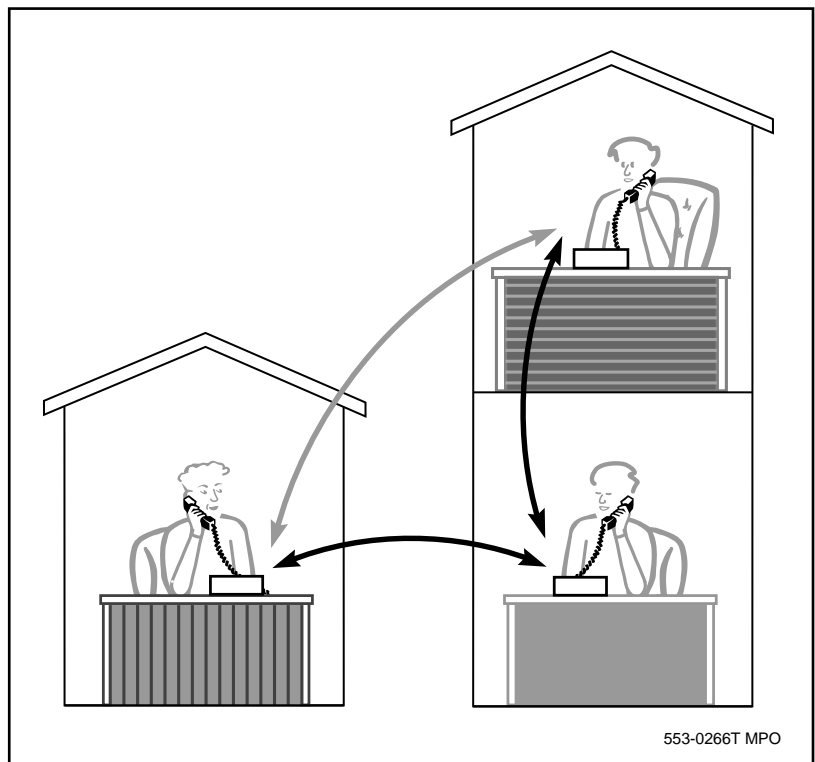
During a call 1015

of 1776

Multi-Party Operations

Purpose

Multi-Party Operations (MPO) is a software package that provides a number of features related to transferring and conferencing calls.



Multi-Party Operations

The main feature components of Multi-Party Operations are listed below.

- ◆ Users of dial or Digitone-type telephones can use Three Party Service. They dial digits called Control Digits when they are active on calls to tell the system when they want to:
 - transfer a call
 - add additional telephone users in a conference
 - disconnect an unwanted telephone user from an active call
 - toggle back and forth between two telephone users
- ◆ A user of an SL-1-type or digital telephone can form a conference call from two active calls on two different keys of a telephone.
- ◆ If a user does not operate the Call Transfer feature correctly, MPO software can be programmed to handle the call a number of different ways.

Multi-Party Operations

Basic feature configuration



This part tells you:

- ◆ how the features that are part of Multi-Party Operation are set up to make basic feature operation possible
- ◆ how a person uses the features and options that are part of Multi-Party Operations
- ◆ what you need to know to manage interactions with other features

Call Transfer, Conference and Multi-Party Operations

Refer to Task 28, *Call Transfer* and Task 29, *Conference* for further information on these two related features. There are many similarities and there are significant differences between these two features and Multi-Party Operations.

Terms used in this module

The descriptions of the MPO features include unique terms that are not used in the rest of the book. It is necessary for you to read the definitions that follow in order for you to understand the feature descriptions in the rest of this module.

Active Party

The Active Party is the telephone user with whom the Controlling Party has a live connection.

Bridged sets

When more than one dial or Digitone-type telephone share a TN, the telephones are said to be *bridged sets*. These telephones have the same DN and since the TN is programmed only once for all of them, they share the same Class of Service and features. There is no privacy. It is recommended that no more than eight telephones share a TN.

Control Connection Active

A state that is reached when there is a consultation connection.

Multi-Party Operations

Control Dial Tone

This tone is provided to a dial or Digitone-type telephone user who performs a Register Recall during a consultation connection. During this period the user is expected to dial a Control Digit. If no Control Digit is dialed, and the Control Digit timer (CDTO in LD 15) expires, Overflow Tone will be given to the user. The level and cadence of the tone can be programmed in LD 56.

Controlling Party

The Controlling Party is the telephone user who has another telephone user on hold (the Held Party) and the Active Party in a Consultation Connection. A dial or Digitone-type telephone is considered to be a Controlling Party as soon as a Register Recall signal is generated by the user.

Consultation Connection

When the Controlling Party and the Active Party are in conversation, they are said to be in Consultation Connection.

Dial "1"

A pulse from a dial telephone that is recognized as the digit 1.

Enquiry Call

A simple connection where one telephone is offering a Call Transfer to another telephone.

External Party

Any CO, DID, or TIE trunk (incoming or outgoing) that is connected to the system, and has an active call, is considered to be an external party for the purposes of the MPO feature.

Flash Timer

The timer that defines how long the switch-hook must be pressed so that it is treated as a switch-hook flash for the purposes of feature operation.

Held Party

The telephone user who has been put on hold by the Controlling Party.

Multi-Party Operations

Normal Call

A simple two-party connection between two telephones.

Overflow Tone

This tone is given to a user for 14 seconds after Special Dial Tone times out and after Control Dial Tone times out.

Programmable Control Digit

A digit that is dialed by a dial or Digitone-type telephone user who is the Controlling Party, after a consultation connection is established, to operate certain aspects of Three Party Service. The Control Digits are programmed in the system memory on a customer-wide basis.

Recall Ringing Cadence

There are two optional ringing cadences that can be implemented, one for dial and Digitone-type telephones and the other for SL-1-type and digital telephones. This type of ringing is used by the system if a telephone is being re-rung after a user has mis-operated the Call Transfer feature.

Register Recall

A user request for service produced either by a switch-hook flash or the Link button. If the system has the Ignore Switch-hook Flash option enabled, a user can produce a Register Recall by pressing a Ground (Earth) button, if it is part of the telephone.

Special Dial Tone

This tone is provided to a dial or Digitone-type user who performs a Register Recall during a normal two-party connection. The level, cadence, and frequency of the tone can be programmed in LD 56.

Special Dial Tone is provided to a dial telephone user for 30 seconds, and to a Digitone-type user for 14 seconds. If the user performs a second Register Recall right away, the Held Party will be re-connected.

If the Special Dial Tone times out, the system provides Overflow Tone to the user.

Multi-Party Operations

Switch-hook flash

An on-hook off-hook pulse that is either a Register Recall signal or a digit 1 depending on the conditions during which it occurs, and on the flash timing.

Transferring party

A telephone user who initiates a Call Transfer.

Transferred party

A telephone to which a call is being transferred by the transferring party.

Setting up the feature

Multi-Party Operations (MPO) functionality is provided by software package 141. The telephones do not come programmed to use the Multi-Party Operations features. You select the telephones that are to have the features, then you use the procedures in this module to program each one.

Table 160
Software requirements

Release required	Software package(s) required
14.46E	141 – Multi-Party Operations (MPO)

Multi-Party Operations deal with situations where a Controlling Party, with a Held Party on hold, attempts to establish, or has already established, a consultation connection with another telephone user.

The Held Party can be either internal or external to the system.

Multi-Party Operations

Sometimes the Controlling Party wants to:

- ◆ transfer the Held Party to the other party
- ◆ set up a conference
- ◆ toggle back and forth between the two parties
- ◆ consult with the other party, disconnect that party, and then return to the Held Party
- ◆ disconnect the other party if a service like voice mail answered, before returning to the Held Party.

Some of the functions offered by MPO are for the benefit of the system administrator or the managers who want to ensure that if callers are not handled properly, the calls will not be lost. For example, sometimes the Controlling Party does not use the Call Transfer feature properly while the Held Party is still on hold. This is called mis-operation. The MPO software attempts to recover when this happens based on the parameters that have been programmed and the circumstances of the mis-operation.

Multi-Party Operations offers the following features and functions to deal with the kinds of scenarios that have just been discussed:

- ◆ Call Join
- ◆ Three Party Service
- ◆ Conference 6
- ◆ Recovery on Mis-operation of Call Transfer
- ◆ Miscellaneous options that include:
 - a Three Party Service Timer that affects how quickly users must dial Control Digits to use the Multi-Party Operations features
 - a capability to ignore switch-hook flashes from dial or Digitone-type telephones
 - an option to force dial telephone users to use a Register Recall signal before dialing a Control Digit.

Multi-Party Operations

- an option that forces users to do a Manual Return to speak to a Held Party after consulting with a second telephone user
- a capability to program Control Digits of your choice
- an option that handles a call in the way you choose when a Controlling Party hangs up after a consultation connection instead of returning to the Held Party
- an option to provide a unique form of ringing to let a user know when a telephone is being re-rung due to mis-operation of the Call Transfer feature
- a timer to deal with the phenomenon called *switch-hook contact bounce*



The detailed information presented in this module will help you with the following:

- ◆ you can use the information to talk to your system supplier about the parameters that you want to implement
- ◆ it is beneficial for you to have this background information, if users ask detailed questions in user training sessions
- ◆ you will be able to help with day-to-day troubleshooting related to the MPO feature

Customer Data Block

Several of the MPO-related parameters are enabled or disabled on a customer-group basis. These parameters are described in this module in the parts where they apply. The programming required is done in the Customer Data Block and therefore it is beyond the scope of this book. Contact your system supplier for assistance in programming any of these parameters.

Call Join

Call Join applies to all SL-1-type and digital telephones that have Conference 3 or Conference 6 keys and at least one secondary DN or a Call Waiting key. Because of the Call Join capability, the Controlling Party can add a held call on one key to a held call on another key in a type of conference. The user can disconnect and leave the other two parties connected, if required.

Multi-Party Operations

Three Party Service

Three Party Service applies only to dial and Digitone-type telephones. You allow Three Party Service in the Class of Service when you program a telephone in LD 10.

TSA programmed in the Class of Service stands for Three Party Service allowed.



Three Party Service allowed (TSA) and Call Transfer allowed (XFA) cannot be programmed in the Class of Service of one telephone, at the same time.

- ◆ If a telephone is programmed to have XFA, and TSD (Three Party Service denied) and you change it to TSA, the system will automatically change the XFA to XFD (Call Transfer denied).
- ◆ If the telephone has XFA and TSD programmed, and you change it to XFD, the system leaves TSD programmed.

Once a telephone user has a consultation connection set up with an Active Party, the user can dial Control Digits to do the following:

Table 161
Three Party Service activity and Control Digits

Activity	Control Digit
form a three-party conference between the Active Party, the Held Party and the Controlling Party	Conference Digit (CNFD in LD 15) default is 1
transfer the Active Party to the Held Party by hanging up after establishing the conference	Conference Digit (CNFD in LD 15) default is 1
toggle between the Active Party and the Held Party	Toggle Digit (TGLD in LD 15) default is 2
disconnect the Active Party and return to the Held Party	Disconnect Digit (DISD in LD 15) default is 3

Multi-Party Operations

Three Party Service Timer Option

A timer can be programmed on a customer-wide basis to determine the amount of time a user has to dial a Control Digit.

In LD 15, the prompt is CDTO. This timer also affects the way calls will be handled when a user does not dial a Control Digit, and the Control Dial Tone times out and the subsequent Overflow Tone times out. The differences occur when the timer is either the default or one of the non-default settings.

If the Controlling Party performs a Register Recall and none of the parties disconnects, then no matter what the setting for the timer is, the Active Party is re-connected to the Controlling Party and the Held Party remains on hold.

CDTO default 14 seconds If a user does not dial a Control Digit within 14 seconds, Overflow Tone is given to the Controlling Party.

If Overflow Tone times out, then the treatment of the call is determined by the setting for another option in LD 15, called the Manual Return after Enquiry Option (MHLD). Refer to the part on this option later in this module.

- ◆ if MHLD is set for NO (default), the Active Party is re-connected to the Controlling Party immediately. The Held Party remains on hold.
- ◆ if MHLD is set for YES, silence is given to the Controlling Party and when the Controlling Party performs the Register Recall, the Active Party is re-connected to the Controlling Party. The Held Party remains on hold.

Multi-Party Operations

CDTO other settings can be between 2 to 12 seconds. If the Controlling Party does not enter the Control Digit within the programmed amount of time, and continues to do nothing after hearing Overflow Tone, the treatment of the call depends on the MHLD setting in LD 15.

- ◆ when MHLD is set for NO (default), the Active Party is disconnected immediately. The Held Party is re-connected with the Controlling Party.
- ◆ when MHLD is set for YES, silence is given to the Controlling Party. When the user performs a Register Recall, the Active Party is disconnected and the Held Party is re-connected to the Controlling Party.

Refer to the Administration tips and Training tips in this module for further information.

Conference 6

If a dial or Digitone-type telephone has a TSA (Three Party Service allowed) Class of Service, a maximum of three parties is allowed on a conference set up by that telephone.

You can give a Conference 6 capability to a dial or Digitone-type telephone user by programming both a TSA Class of Service and a C6A Class of Service.

The Conference 6 feature extends the TSA feature. It allows the Controlling Party to use Control Digits to set up successive consultation connections to add on more than two other parties.

The user dials the CNFD Control Digit defined in LD 15 to add the Active Party to the existing conference.

The user can put the Active Party on hold and then reconnect to the conference by dialing the TGLD Control Digit defined in LD 15. Dialing the TGLD digit a second time reconnects the user to the Held Party and puts the conference on hold again.

If the user dials the DISD Control Digit defined in LD 15, the consulted party is disconnected and the conference connection is restored.

Multi-Party Operations

If the Controlling Party goes on-hook when the Held Party is a conference call, then the consulted party is released and the parties involved in the conference (the Held Parties) are connected in a conference that no longer includes the Controlling Party. This assumes that there are no restrictions that prevent the connection (for example, trunk-to-trunk connections that are not allowed).

If the Controlling Party goes on-hook when the Active Party is a conference, then the Controlling Party is released from the conference and the conference (which includes the Held Party) stays connected, if no restrictions prevent it.

Group Calls cannot be conferenced with other parties.

Recovery of Mis-operation of Call Transfer

This part of the MPO feature provides improved call handling compared to the regular Call Transfer feature when users on your system do not transfer calls properly.

A mis-operation is seen by the system whenever a Controlling Party attempts to complete a transfer before the called party answers.

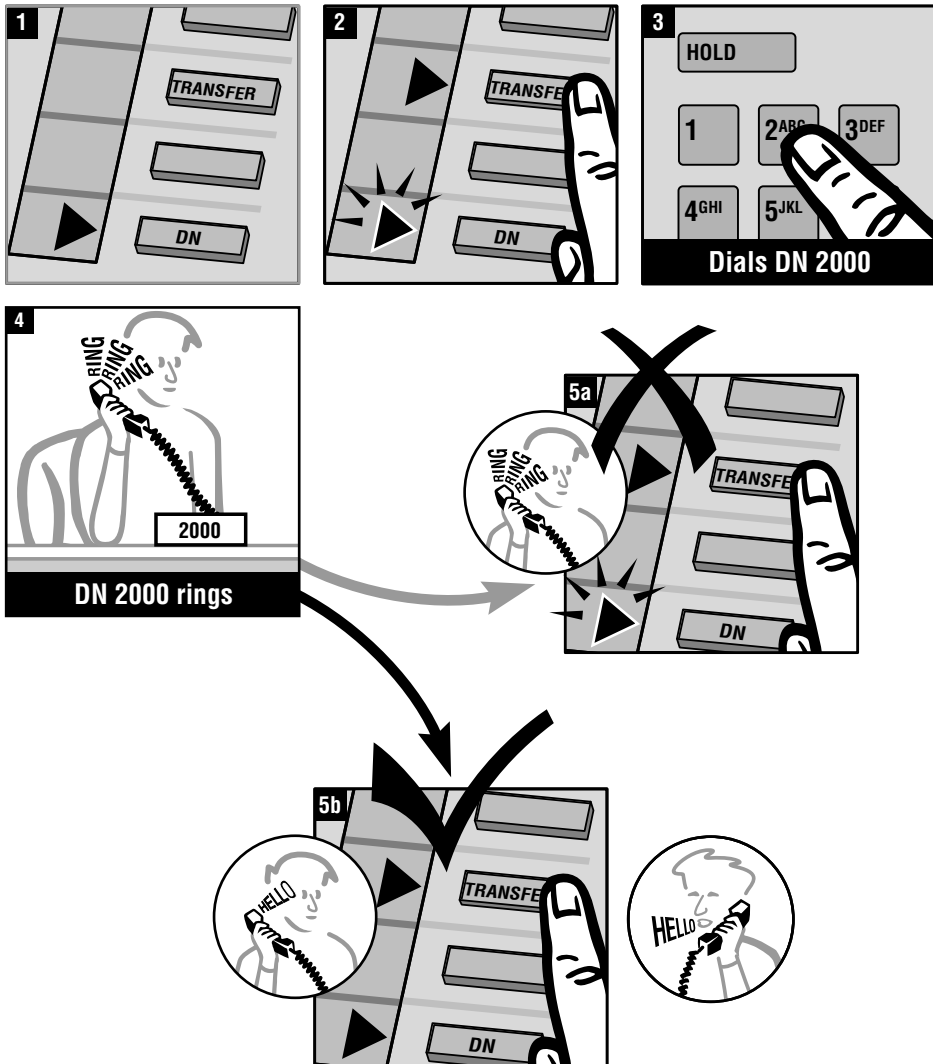
This feature applies if the Held Party in a consultation connection is an external one but it does not apply if the transferred telephone is external (refer to the definitions earlier in the module). External telephones are connected to separate systems. To affect mis-operation to these external telephones would require that your system would be able to control the operation of the system to which the transferred telephone is connected. This capability has not been developed for this feature at this time.

There are two kinds of mis-operations, as far as the system is concerned. They are:

- ◆ Mis-operation of Call Transfer on Ringing with No Answer
- ◆ Mis-operation of Call Transfer for All Other Cases

Multi-Party Operations

Mis-operation of Call Transfer on Ringing with No Answer occurs when the transferring party attempts to complete a transfer while receiving Ringback Tone or Call Waiting Tone (if the telephone called is busy and has the Call Waiting feature). The transferring party can use any kind of telephone and be affected by this feature.

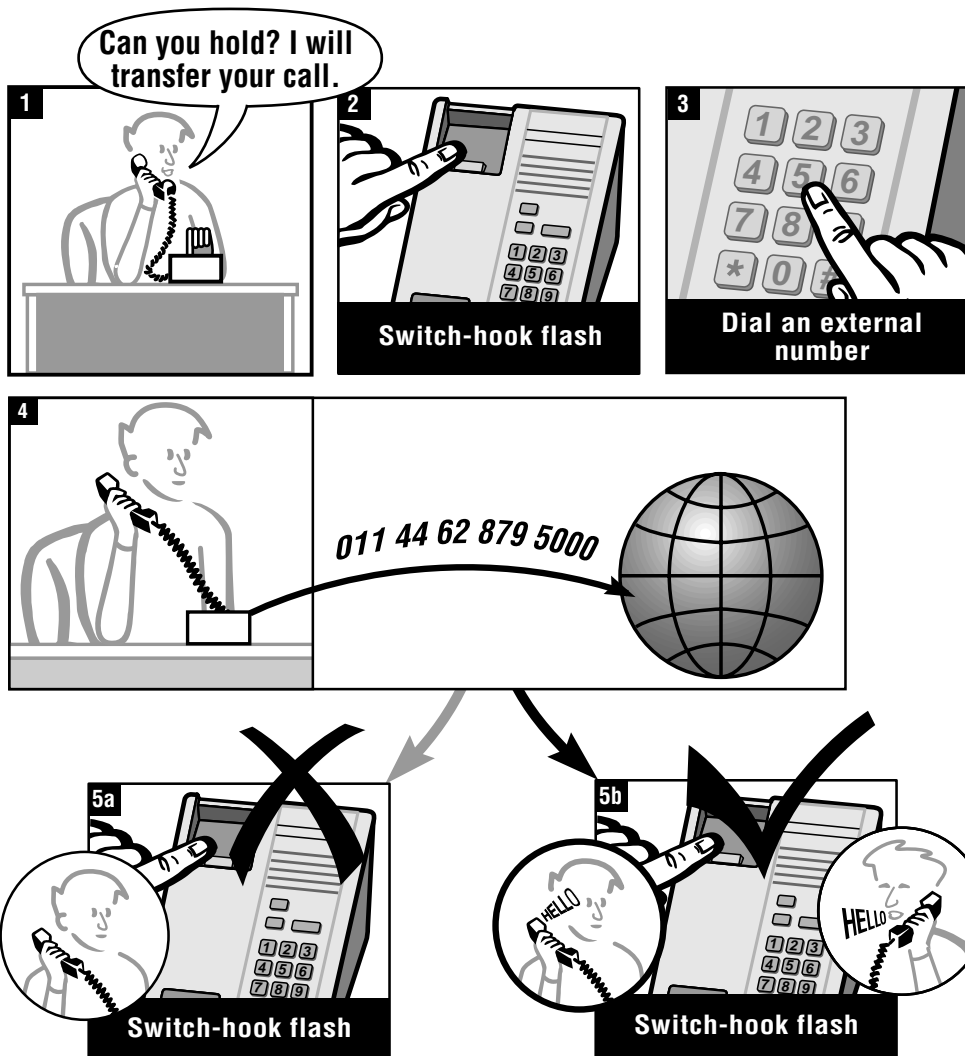


553-0267T MPO

Multi-Party Operations

Mis-operation of Call Transfer for All Other Cases (AOCS) occurs when a dial or Digitone-type telephone user attempts to complete a transfer and one of the following things happens:

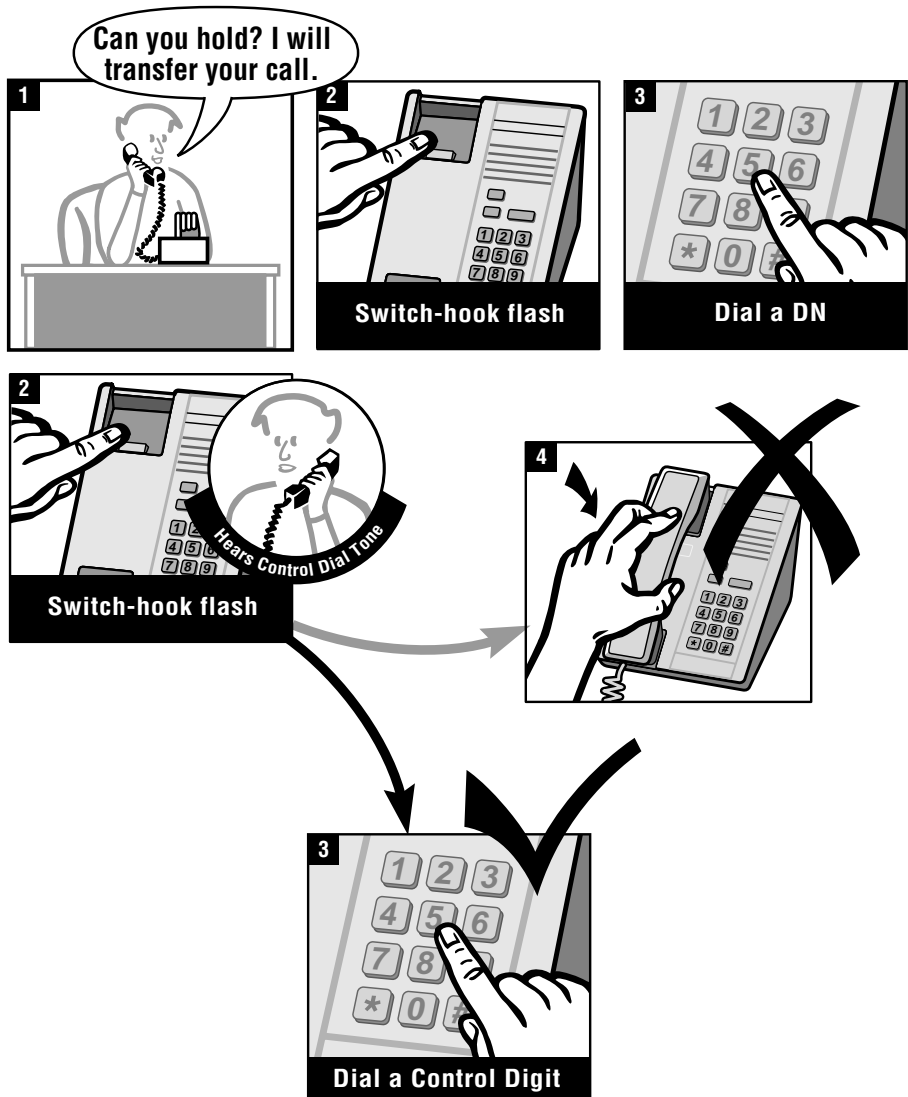
- ◆ a transfer is attempted while Dial Tone is being heard
- ◆ a transfer is attempted before dialing is complete
- ◆ a transfer is attempted during outpulsing of digits on a trunk when calling an external party



553-0268T MPO

Multi-Party Operations

- ◆ the Controlling Party goes on-hook during a consultation connection and the Control Connection Disconnect Option (CCDO) is programmed with a NO response in LD 15
- ◆ the Controlling Party goes on-hook during Control Dial Tone



553-0269T MPO

Multi-Party Operations

- ◆ a transfer is attempted and the call intercepts because:
 - the called party is a busy telephone with Call Waiting denied or no Call Waiting key
 - the called number does not exist
 - the called telephone is in maintenance busy mode
 - the called telephone is served by Remote Peripheral Equipment (RPE) and the RPE has failed
 - the called telephone is external and trunk access is denied for the Controlling Party
 - the called number is a number from which the Controlling Party is toll restricted or code restricted
 - there is network (timeslot) blocking in the system
 - the called number cannot be translated, or is restricted or blocked due to NARS or BARS programming
 - the called number was only partially dialed
 - the transfer would result in a trunk-to-trunk connection that is restricted
 - the called number belongs to a tenant group that is restricted for the Controlling Party
 - a transfer is attempted during the reception of an announcement
 - a transfer is attempted during tones such as Special Dial Tone

Customer Data Block

The recovery options are programmed in the Customer Data Block (LD 15).

Separate treatments can be specified for external and internal calls.

Discuss the alternatives with your system supplier and use the options that suit your needs for the types of internal calls your users make, and external calls that come into your system.

Multi-Party Operations

When the transferred party is ringing no answer, the choices for call treatments are as follows:

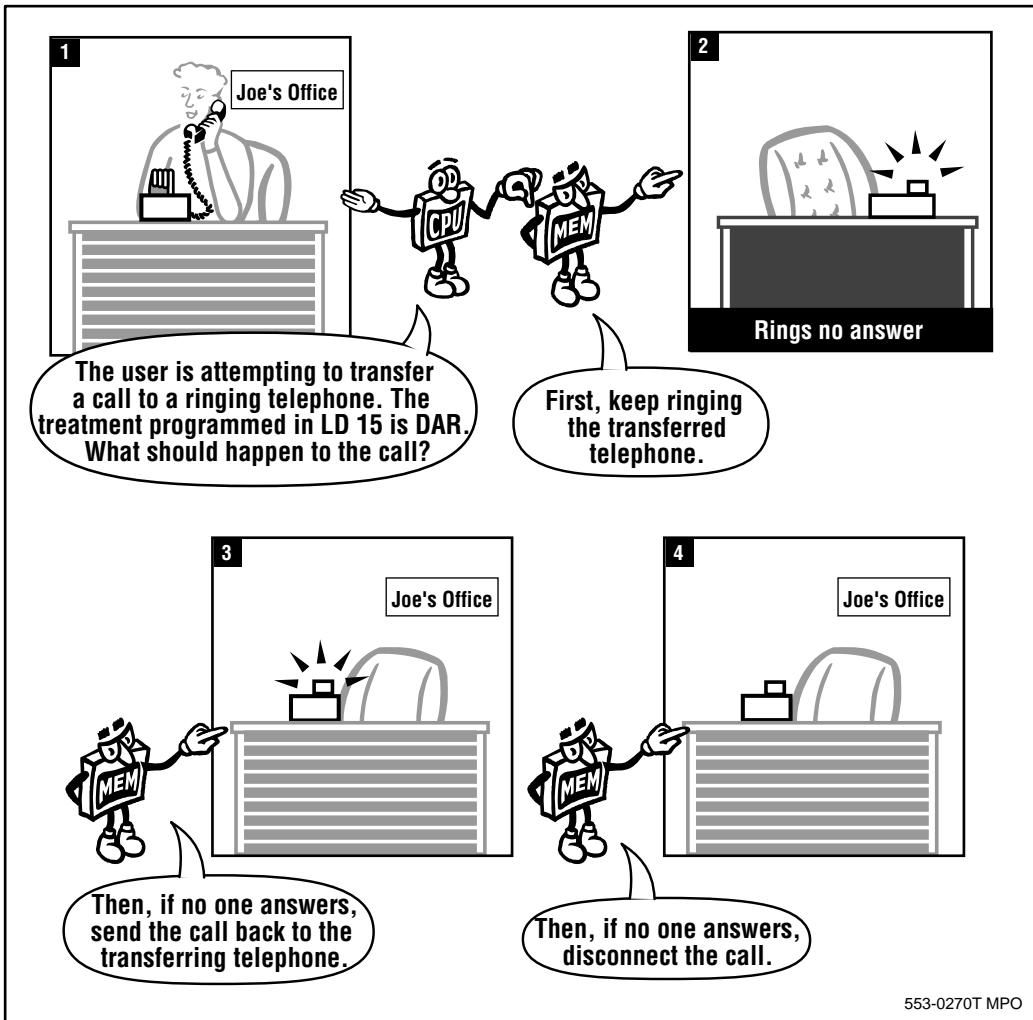
- ◆ the telephone rings until someone answers it or the Call Forward No Answer feature redirects the call. This is called standard operation (STD).
- ◆ the call is redirected to the attendant after an optional number of ringing cycles. This choice is ATN. The ringing cycles option prompt is RCY2.
- ◆ the transferred party rings for the optional number of ringing cycles (RCY2). If the call is not answered, the call is directed back to the transferring party. It rings there for another programmable number of ringing cycles (RCY1).

The ringing cadence for this recall can be programmed to sound different from a normal ringing cadence. Refer to the part called Recall Ringing Cadence in this module, for more information.

If the call is still not answered, the call is disconnected after the programmable number of ringing cycles. The mnemonic for this choice is DAR.

Multi-Party Operations

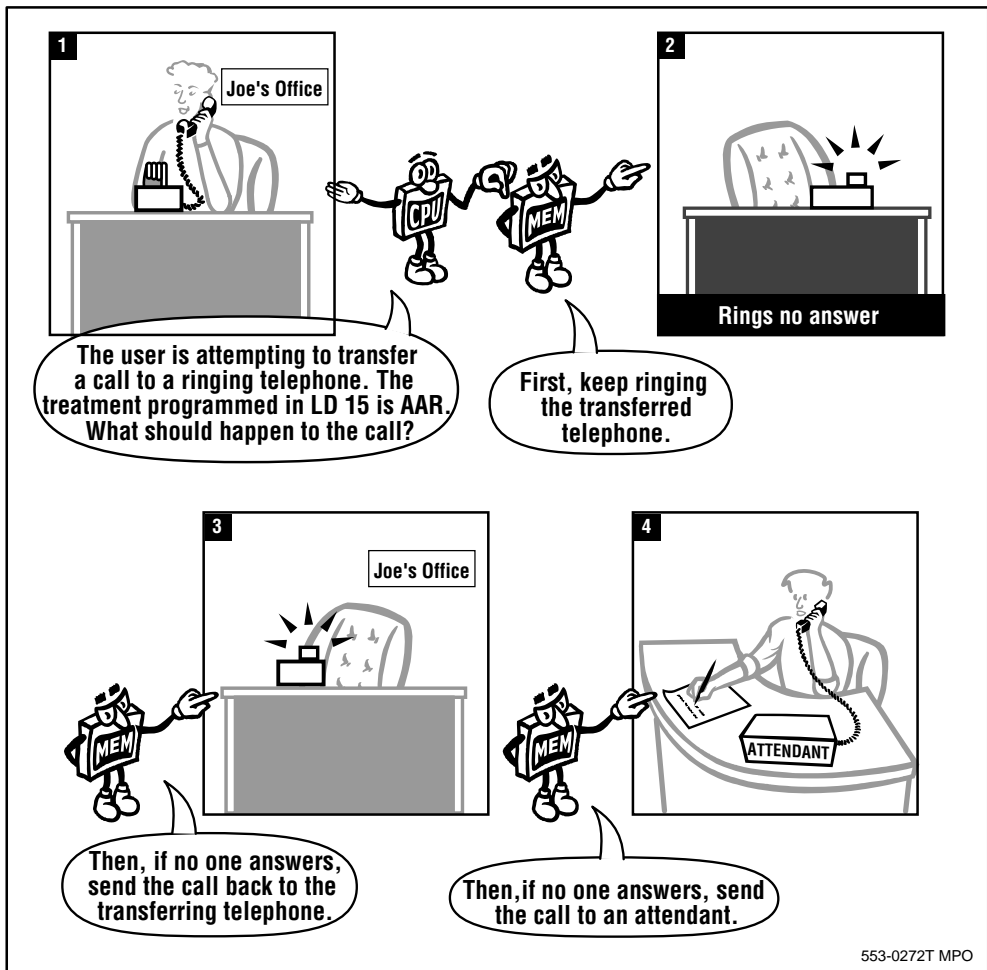
Call treatment DAR



If the transferring party becomes busy while the transferred party is ringing, then the call cannot be forwarded back and the call is disconnected after ringing the number of cycles programmed for RCY2.

Multi-Party Operations

- ◆ ring the transferred party for the optional number of ringing cycles (RCY2). If the call is not answered, direct forward the call back to the transferring party and ring it for another programmable number of ringing cycles (RCY1). The ringing cadence for this recall can be programmed to sound different from a normal ringing cadence. If the call is still not answered, redirect it to the attendant. The mnemonic for this choice is AAR.



If the transferring party becomes busy while the transferred party is ringing, the call cannot be forwarded back and the call is redirected to the attendant after ringing the number of cycles programmed for RCY2.

Multi-Party Operations

- ◆ ring the transferred party for the optional number of ringing cycles (RCY2). If the call is not answered, the Held Party hears Overflow Tone. The mnemonic for this choice is OVF.
- ◆ ring the transferred party for the optional number of ringing cycles (RCY2). If the call is not answered, disconnect it. The mnemonic for this choice is DIS.

The ringing cycles are counted from the time the transfer has been completed. This is either from the time the dial or Digitone-type telephone goes on-hook or the SL-1-type or digital telephone user presses the TRN key for the second time.

The default setting for internal calls that are transferred and ring no answer is STD. The default setting for external calls that are transferred and ring no answer is STD.

The choices for call treatments when mis-operation occurs for all other cases are:

- ◆ the telephone rings until someone answers it or the Call Forward No Answer feature redirects the call. This is called standard operation (STD).
- ◆ the call is redirected to the attendant. This choice is ATN.
- ◆ the call is directed back to the transferring party and it rings for an optional number of ringing cycles (RCY1). The ringing cadence for this recall can be programmed to sound different from a normal ringing cadence. Refer to the part called Recall Ringing Cadence, in this module, for more information. If the call is still not answered, disconnect the call after the programmable number of ringing cycles. The mnemonic for this choice is DAR.

If the transferring party becomes busy, then the call cannot be forwarded back and the call is disconnected.

Multi-Party Operations

- ◆ the call is directed back to the transferring party and it rings for an optional number of ringing cycles (RCY1).

The ringing cadence for this recall can be programmed to sound different from a normal ringing cadence. If the call is still not answered, redirect it to the attendant. The mnemonic for this choice is AAR.

If the transferring party becomes busy, then the call cannot be forwarded back and the call is redirected to the attendant.

- ◆ Overflow Tone is heard by the Held Party. The mnemonic for this choice is OVF.
- ◆ the call is disconnected. The mnemonic for this choice is DIS.

The default settings for internal calls and external calls that are transferred and mis-operate for other reasons are DIS and ATN respectively.

An unusual type of situation that is treated as a mis-operation as well, is one where the Controlling Party goes on-hook when an external Held Party has disconnected but no disconnect signal was received. The system rings back the Controlling Party and presents the user with the Held Call even though there is no caller there. The system expects the Controlling Party to disconnect to release the Held Party.

Ignore Switch-hook Flash from 500/2500 Set option

A 500 set is a dial telephone. A 2500 set is a Digitone-type telephone.

The Ignore Switch-hook Flash option can be activated on a customer-wide basis. Your system supplier can help you to decide whether you need this or not.

It is of most use when dial telephones have been programmed with a DTN Class of Service. Giving dial telephones this Class of Service is not recommended. Refer to Task 1, *New dial telephone*, the Class of Service part, for a discussion on this.

If a dial telephone user dials the digit 1, while on an active call, the system interprets that as a switch-hook flash since it is a brief on-hook off-hook sequence.

Multi-Party Operations

Enabling the Ignore Switch-hook Flash option eliminates that confusion. If the flash is to be ignored, you must install Ground (Earth) buttons on the dial and Digitone-type telephones of the users who require the use of a Register Recall signal.

Forced Register Recall

This option specifies whether a Register Recall is required on dial telephones before the users can dial Control Digits. If the system is programmed so that a Register Recall is not required, and if the user performs a switch-hook flash, it is interpreted as if the user dialed the digit 1. If the digit 1 is programmed as a Control Digit, then the system responds accordingly. The Forced Register Recall option can be programmed on a customer-wide basis in LD 15.

On systems where all single line telephones are dial-type, users will find it convenient if they do not have to use a switch-hook flash when they want to transfer, conference or toggle between calls since they would only have to dial Control digits.

On systems where all single line telephones are Digitone-type the Forced Register Recall option must be set as YES. In other words, users of Digitone-type telephones will always have to perform a switch-hook flash before entering a Control Digit.

Manual Return after Enquiry option

This option controls the way the Held Party can be reconnected to a Controlling Party when the Controlling Party has used a Register Recall to place the call on hold and has done nothing further. The Controlling Party hears Special Dial Tone, followed by Overflow Tone when no number is dialed. The Held Party is given silence or a recorded announcement, if the software to do that is equipped.

Multi-Party Operations

The prompt for the Manual Return after Enquiry option is MHLD in LD 15, the Customer Data Block.

- ◆ A NO response means that the Controlling Party is automatically reconnected to the Held Party after the Overflow Tone times out.
- ◆ A YES response means that the Controlling Party will receive silence indefinitely after the Overflow Tone times out.

The user must perform a Register Recall in order to be reconnected to the Held Party. The Controlling Party can use the Register Recall to reconnect to the Held Party during the Special Dial Tone and Overflow Tone as well.

There is a connection between the MHLD prompt and the Three Party Service timer (the time during which time the user is supposed to dial a Control Digit). For more information, refer to the Three Party Service Timer Option.

Control Connection Disconnect Option (CCDO)

During a consultation connection, any of the three parties involved could hang up.

There is an option (CCDO) that can be set in the Customer Data Block (LD 15) to control the operation of MPO when any of the parties in a consultation call disconnect on purpose or in error.

When the default NO response is programmed, it means that an alternative treatment is not required. When CCDO is programmed with a YES response, it means an alternative treatment is required for the disconnect option.

The following paragraphs describe what happens when each of the three parties disconnects during a consultation connection and the CCDO option is set for NO or YES.

CCDO NO

If the Active Party disconnects and the Active Party is using an internal telephone, and the system receives a disconnect signal when the disconnect occurs, then the Held Party is reconnected with the Controlling Party for a normal two-party call.

Multi-Party Operations

If the Active Party is an external one, and the system does not receive a disconnect signal, the Controlling Party can release the disconnected trunk by dialing the Control Digit for disconnect. The Controlling Party is then connected to the Held Party for a normal two-party call.

If the Held Party disconnects and the Active Party is an internal or external telephone, and the system receives a disconnect signal when the disconnect occurs, then the connection between the Active Party and the Controlling Party becomes a normal two-party call.

The Controlling Party can test the connection by dialing a Control Digit. If the user hears Special Dial Tone, this means that the Held Party has disconnected. If LD 15 has been programmed with RALL YES, (refer to Forced Register Recall) or if the telephone is Digitone-type, the user can perform a switch-hook flash to do the test. If Special Dial Tone is given, then this means that the Held Party has disconnected.

If the Controlling Party disconnects and the Held Party is not a Group Call, the system considers this to be a mis-operation of the Call Transfer feature of the “All Other Cases” type. The system then releases the Active Party. The Held Party will be handled based on the parameters programmed for the “All Other Cases” (AOCS) option in LD 15. (Refer to the part of this module that discusses the mis-operation of the Call Transfer feature).

If the Held Party is a conference call, the consulted party is released and the conference stays connected. However, restrictions such as trunk-to-trunk restrictions can prevent the connection.

If the Held Party is a Group Call, and the Controlling Party has Group Call control, all the parties in the Group Call will be disconnected.

CCDO YES

If the Active Party disconnects and it is an internal or external telephone, and the system receives a disconnect signal when the disconnect occurs, the Controlling Party is given Overflow Tone. If the Controlling Party performs a Register Recall or if the Overflow Tone times out, the Held Party is reconnected to the Controlling Party.

Multi-Party Operations

If the Active Party is external to the system and a disconnect signal is not received when the external user hangs up, the Controlling Party can disconnect the trunk by dialing the Disconnect Control Digit. The Controlling Party is then connected to the Held Party in a normal two-party call.

If the Held Party disconnects and the Held Party is external and the system did not receive a disconnect signal, the Controlling Party can use the Disconnect Control Digit to release the trunk. The trunk can be released after the user toggles to it and realizes that the party has hung up.

If the Forced Register Recall option (RALL) is programmed as NO in LD 15, and the system receives a disconnect signal when the disconnect occurs, the Controlling Party can choose to:

- ◆ disconnect the Active Party by dialing the Disconnect Control Digit. The Controlling Party is given Overflow Tone to indicate that there is no longer a Held Party.
- ◆ toggle or conference but the user will hear Overflow Tone to indicate that the Held Party has disconnected. If the user performs a Register Recall or the Overflow Tone times out, the Controlling Party will be reconnected to the previous Active Party.

If the Forced Register Recall option (RALL) is programmed as YES in LD 15, the Controlling Party who performs the required Register Recall will hear Special Dial Tone instead of Control Dial Tone. The Special Dial Tone indicates that the Held Party has disconnected.

If the Held Party disconnects while the Controlling Party is hearing Control Dial Tone, the Controlling Party hears Overflow Tone right away.

If the Controlling Party disconnects and the Held Party is not a Group Call, then the call is transferred. However, if the new connection cannot be established because of trunk-to-trunk restrictions, the Held Party is routed to the attendant as an intercepted external call.

Multi-Party Operations

If the Held Party is a Group Call, and if the Controlling Party is the controller of the Group Call, then all the parties in the Group Call will be disconnected if the Controlling Party hangs up during a consultation connection.

CCDO YES or NO

When the Controlling Party has put a call on hold, and is receiving Special Dial Tone, or possibly Overflow Tone or silence, the Held Party might hang up.

If the Held Party Disconnects

During Special Dial Tone then Overflow Tone is given to the Controlling Party to indicate this. The Controlling Party can hang up and proceed with the call they were going to make at a later time.

During Overflow Tone if the Controlling Party waited too long to dial a Control Digit for example, then when the Overflow Tone times out, the Controlling Party is put into a line-lock out mode.

During silence if the user waited too long to dial a Control Digit for example, and the Overflow Tone timed out, then the Controlling Party is put into a line-lockout mode immediately.

Control Digits

A user dials Control Digits after hearing Control Dial Tone to tell the system what Three Party Service function the user wants to perform. These digits are programmable on a customer-wide basis. The default values are shown in Table 161 in this module.

If no digitone receivers are available when a Digitone-type telephone user performs a Register Recall and as a result Control Dial Tone cannot be given, the Controlling Party is automatically reconnected to the Active Party.

If the Controlling Party dials an invalid Control Digit or switch-hook flashes during Control Dial Tone, then the connection to the Active Party is restored and the Held Party remains on hold.

Multi-Party Operations

If the Controlling Party disconnects during Control Dial Tone, and the CCDO option in LD 15 is programmed as YES, then the recovery action will depend on the option chosen for the AOCS mis-operation option in LD 15.

Table 162
Recovery action when Controlling Party goes on-hook during Control Dial Tone related to mis-operation options programmed in LD 15

AOCS option	Recovery action
DIS	Held Party and Active Party are disconnected
ATN	Held Party and Active Party redirect to attendant
DAR	Controlling Party is re-rung with Active Party – if Controlling Party does not answer within RCY1 ring cycles, then both the Held Party and the Active Party are disconnected
AAR	Controlling Party is re-rung with Active Party – if Controlling Party does not answer within RCY1 ring cycles, then both the Held Party and the Active Party are routed to attendant
OVF	Held Party and Active Party receive Overflow Tone – after Overflow Tone times out, both disconnect
STD	DIS – for internal Held Party and Active Party ATN – for external Held Party and Active Party

If the Controlling Party disconnects during Control Dial Tone, and the CCDO option in LD 15 is programmed as NO, then the Active Party is disconnected and the Held Party will be handled by following the mis-operation treatment programmed in LD 15.

Recall Ringing cadence

If there has been a mis-operation of the Call Transfer feature, the system can be programmed to recall the transferring telephone.

Table 163
Software requirements

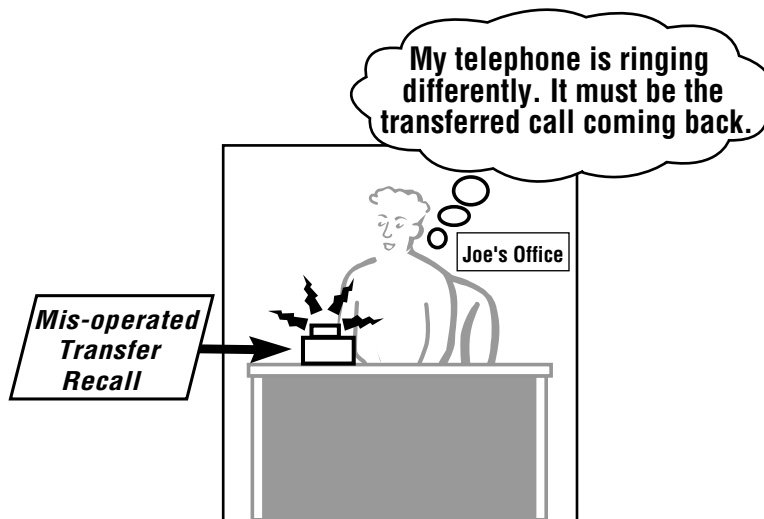
Release required	Software package(s) required
14.46E	125 – Flexible Tones and Cadences (FTC)

Multi-Party Operations

The ring for the recall can be programmed to be different than normal ringing. There is an optional form of ringing that can be chosen for dial and Digitone-type telephones. There is another form of ringing for SL-1-type and digital telephones.

Ask your system supplier to tell you what tones and cadences are available to you, based on the equipped Tone and Digit Switch cards or Extended Conference and Tone and Digit Switch cards on your system.

The system supplier is able to program the Recall Ringing cadences for you in LD 56, if you think it would be beneficial for your users.



553-0273T MPO

Multi-Party Operations

Switch-hook contact bounce

Sometimes users disconnect calls by pressing the switch-hook in a way that results in multiple, short switch-hook flashes. Prior to the introduction of the MPO feature, the systems handled the disconnected party as if it were a Held Party. The Controlling Party was treated as if the user had mis-operated the Call Transfer feature by hanging up. This caused unintended transfers to the attendant.

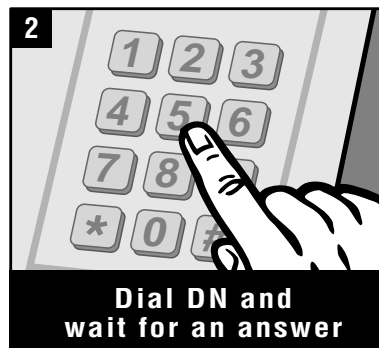
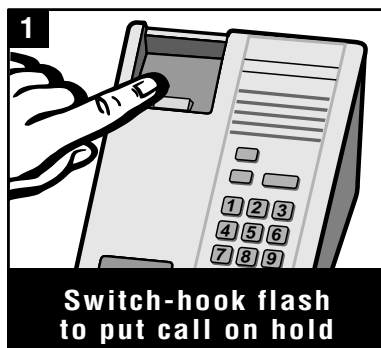
A timer set at 256 ms is activated automatically after a switch-hook flash on systems that have MPO equipped. For a period of 256 ms after a switch-hook flash, any signaling from a telephone is ignored. This eliminates signaling not intended by the user.

Using the features

Dial or Digitone-type telephones

Forced Register Recall is programmed as YES in these examples.

Conference



553-0274T MPO

Multi-Party Operations

Toggle



1
Switch-hook flash
to put call on hold



2
Dial DN and
wait for an answer



3
Switch-hook flash-
hear Control Dial Tone



4
Press 2 to speak
to the Held Party

553-0275T MPO

Disconnect Active Party



1
Switch-hook flash
to put call on hold



2
Dial DN and
wait for an answer



3
Talk to the Active Party



4
Switch-hook flash-
hear Control Dial Tone



5
Press 3 to disconnect
the Active Party



6
Talk to the Held Party

553-0276T MPO

Multi-Party Operations

What to do when the Controlling Party hears Overflow Tone

The Controlling Party hears Overflow Tone if any of the following occur:

- ◆ Special Dial Tone times out
- ◆ Control Dial Tone times out
- ◆ the Active Party disconnects and the Control Connection Disconnect (CCDO) option is enabled in LD 15
- ◆ the Held Party disconnects during Special Dial Tone



In the chart that follows, you can see that there is only one case where the parties do not remain connected if the user performs a switch-hook flash when hearing Overflow Tone. That case is where both the Held Party and the Active Party have disconnected.

Tell your users that if they hear Overflow Tone when using Three Party Service they should use the switch-hook flash.

If the users hang up instead of using the switch-hook flash, the call is handled according to mis-operation parameters. The result will not be convenient for the Controlling Party or the callers.

Multi-Party Operations

Table 164

What happens when a user performs a switch-hook flash while hearing Overflow Tone

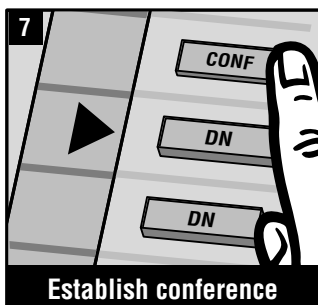
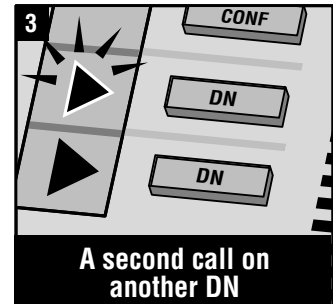
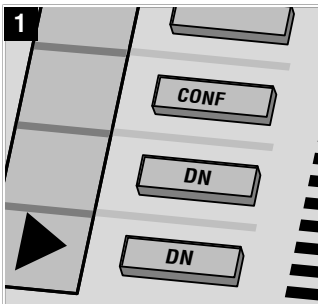
	Held Party remains on hold	External Held Party disconnects– no disconnect signal	Held Party disconnects
Active Party active	Consultation connection resumes	Consultation connection resumes Controlling Party can release external Held Party using TGLD digit followed by DISD digit	Normal call between Controlling Party and Active Party
External Active Party disconnects – no disconnect signal	Consultation connection resumes Controlling Party can release external Active Party using DISD digit	Consultation connection resumes Controlling Party can release external Held Party and Active Party using TGLD digit and DISD digit	Normal call between Controlling Party and Active Party Controlling Party can release external Active Party by going on-hook
Active Party disconnects	Normal call between Controlling Party and Held Party	Normal call between Controlling Party and Held Party Controlling Party can release external Held Party by going on-hook	Controlling Party enters line lockout state

Multi-Party Operations

Using the features

SL-1-type and digital telephones

Call Join



553-0277T MPO

If the user disconnects, the other two parties remain connected.

If the two parties are external and there are trunk-to-trunk restrictions that prevent the connection, the two parties will not remain connected.

Multi-Party Operations

Interactions with other features

Multi-Party Operations works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems. Proper training can reduce the number of repair calls of this nature.

FFC and SPRE interact with MPO

If the user dials an FFC code or SPRE code during a consultation connection, it will be treated as a Control Digit. Therefore there cannot be a conflict between the Control Digits and the FFCs and SPRE code.

Dictation trunks and paging trunks interact with Three Party Service

A user cannot set up a consultation connection when the Held Party is a paging trunk or a dictation trunk.

Attendants interact with Three Party Service

A user cannot set up a consultation connection when the Held Party is an attendant.

Multi-Party Operations

Call Detail Recording (CDR) interacts with Three Party Service

For more information on CDR, refer to the module in the *Call Detail Records* module.

- ◆ when a Controlling Party adds a new party to an existing call to form a conference, if the new party is an external one, then an “S” record is generated. If the new party is internal and the Controlling Party or the new party has Internal CDR allowed in the Class of Service, then an “L” record is generated.
- ◆ when a telephone is released from a conference, an “E” record is generated if the released party is an external one. If the disconnected party is an internal one, and the Controlling Party or the disconnected party has Internal CDR allowed in the Class of Service, then an “L” record is generated.
- ◆ when a Controlling Party dials the DISD Control Digit to disconnect an Active Party, an “N” record is generated if the released party is an external one. An “L” record is generated if the disconnected party is an internal one, and the Controlling Party or the disconnected party has Internal CDR allowed in the Class of Service.

Call Detail Recording (CDR) interacts with mis-operation

A CDR record is generated when a Controlling Party goes on-hook to complete a transfer while the called party is still ringing. This happens no matter what recovery option is programmed in LD 15 for ring no answer mis-operation situations.

The record is generated with information about the initial portion of the call before the mis-operation occurred.

In cases where there is recovery on mis-operation due to the transferred telephone ringing no answer, if the Held Party is external, then an “S” record is generated. An “L” record is generated if the Held Party is internal and the Controlling Party or the Held Party has Internal CDR allowed in the Class of Service.

Multi-Party Operations

In cases where there is recovery on mis-operation due to all other cases, if the Held Party is external, and the options selected are AAR, DAR, ATN or STD, then an “S” record is generated. If the option selected is DIS or OVF then an “N” record is generated.

An “L” record is generated if the Held Party is internal and the Controlling Party or the Held Party has Internal CDR allowed in the Class of Service.

Call Pickup interacts with MPO

The Call Pickup feature allows users to answer ringing telephones from their own telephones as long as the ringing telephone is in the same Call Pickup group as the user’s telephone.

A dial or Digitone-type telephone user can only use the Call Pickup feature if there is no other call active on the telephone at the time. A user with an active call and Three Party Service allowed, who hears a telephone ring in the same Call Pickup group, cannot perform a Register Recall and try to use the Call Pickup feature to answer the ringing telephone.

Ring Again interacts with MPO

The Ring Again feature can be used when a user has dialed a busy telephone. Once activated, the system will ring the originator’s telephone when the called telephone becomes idle.

This feature cannot be used if a Controlling Party calls a busy telephone while attempting to set up a consultation connection.

Call Transfer, Conference and Three Party Service interact with MPO

During a consultation connection by the Controlling Party, the Held Party or Active Party cannot use the Call Transfer, Conference, or Three Party Service features.

Multi-Party Operations

Call Forward All Calls interacts with Mis-operation of Call Transfer

A telephone user can make calls while a telephone is in an active call-forward mode. The user can also use the Three Party Service feature. If the user mis-operates, a recall will ring the Controlling Party telephone (if it is programmed to do so), even though it is in a call-forward mode.

Call Forward No Answer interacts with MPO

During a mis-operated Call Transfer when the transferred party is ringing with no answer, if the option for mis-operation in the Customer Data Block is STD, then the mis-operated call will be handled by the Call Forward No Answer feature. However, the treatments for mis-operation (other than STD), have priority over Call Forward No Answer treatments.

Multiple Appearance DNs interact with MPO

When a call has been transferred improperly and it is recalling, if the transferring telephone used a DN that appears on other telephones as well, the recall will only ring at the telephone that was the transferring telephone.

The Break-In to Enquiry Calls feature interacts with MPO

If either the Controlling Party or the Active Party has a Warning Tone denied Class of Service, or if an enquiry call is in the dialing or ringing state, then Break-In by the attendant is ignored.

A switch-hook flash, use of the Ground button, or Register Recall will be ignored for dial or Digitone-type telephones during a Break-In conference. Use of the Conference key on an SL-1 or digital telephone will be ignored during Break-In as well.

Call Waiting interacts with MPO

When a dial or Digitone-type telephone is assigned a Class of Service with both Call Waiting allowed (CWA) and Three Party Service allowed (TSA), a consultation connection is set up when the user answers a waiting call during an established call. To toggle back and forth between calls, the TGLD Control Digit is used, instead of the switch-hook flash.

Multi-Party Operations

Whether or not the MPO software is equipped on a system, if a dial or Digitone-type telephone user answers a waiting call and hangs up, the system treats this as a mis-operation. The Controlling Party telephone will be re-rung with a call from the Held Party who was accidentally mishandled.

If a dial or Digitone-type telephone user attempts to set up a connection to a telephone that is busy which has Call Waiting allowed, the Controlling Party hears ringback tone and the Active Party hears Call Waiting Tone. If the controlling Party hangs up before the Active Party answers the Call Waiting call, then the Held Party is disconnected regardless of the MPO options. The Active Party will no longer hear Call Waiting Tone after this happens.

Call Waiting Redirection interacts with Recovery on Mis-operation of Call Transfer with Ring No Answer

If a transferring party tries to set up a consultation connection with a busy telephone that has Call Waiting allowed, the call will be put into a Call Waiting mode. The transferring party hears Ringback Tone. If the transferring party goes on-hook to complete a transfer before the transferred party answers the Call Waiting call, a mis-operation is detected by the MPO software.

If the transfer is completed after the Call Waiting Redirection Call Forward No Answer timer has expired, the call is removed from a Call Waiting mode at the transferred party. The call is redirected to the Call Forward No Answer DN programmed for the transferred party telephone.

If the transfer is completed before the Call Waiting Redirection Call Forward No Answer timer expires, the treatments vary depending on the Ring No Answer options selected in LD 15.

- ◆ STD – Call Waiting Redirection redirects the unanswered Call Waiting call when the Call Forward No Answer timer expires
- ◆ ATN, DIS, OVF, AAR, DAR – the Ring No Answer recovery option in LD 15 operates instead of the Call Forward No Answer feature. Therefore, the recovery option operates instead of the Call Waiting Redirection feature.

Multi-Party Operations

Night Service interacts with MPO

During Night Service, mis-operated calls which are routed to the attendant are re-routed to a defined night DN, if there is one. Once the call is re-routed to a night DN, Night Service/Enhanced Night Service options override the MPO mis-operation treatment options.

- ◆ External calls, other than DID calls, are queued until answered.
- ◆ if Enhanced Night Service is configured on a system, DID calls that are routed to the night DN are queued up if it is busy.
- ◆ TIE calls are disconnected if the night DN is busy.

The night DN rings continuously.

However, if NFNA (Night Forward No Answer ringing cycles) is programmed in LD 15 (on systems with Attendant Forward No Answer software package 134), the call will be disconnected after it has rung the programmed number of times. If the telephone has Call Forward No Answer allowed, the call will forward.

If the call came in on a DID trunk, the ring cycles are determined by the DFNR setting in the Customer Data Block.

Priority Override/Forced Camp-On interacts with MPO

If the Priority Override/ Forced Camp-On (POVR software package 186) is equipped, and a consultation call is made to a busy telephone, the Controlling Party must perform a Register Recall and dial any Control Digit to return to the Held Party. Without that software, the user can perform a simple Register Recall in that situation and return to the Held Party.

If you have this software package on your system be sure to tell your users how to return to a Held Party if they call a busy telephone during a consultation attempt.

Group Call and Call Join interacts with MPO

If there is a Group Call on a key on a digital or SL-1-type telephone, it cannot be joined with a call on another key.

Multi-Party Operations

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Enhanced Music on Hold

Music can be given to a Held Party if the Enhanced Music software package is equipped.

Table 165
Software requirements

Release required	Software package(s) required
14.46E (when used with MPO)	119 – Enhanced Music (EMUS) 7 – Recorded Announcement (RAN)
12 (without MPO)	

Multi-Party Operations Enhancements

The enhancements offered by this software package pertain to the Three Party Service feature of Multi-Party Operations.

Table 166
Software requirements

Release required	Software package(s) required
16.67G	141 – Multi-Party Operations (MPO) 131 – Supplementary Features (SUPP) 197 – French Type Approval (FRTA)

Patience Tone

A Controlling Party can set up a consultation connection and then put the Active Party on hold by using the Register Recall and dialing a Control Digit. This enhancement allows the party on hold to hear a tone instead of silence.

Multi-Party Operations

Ringback to external parties after mis-operation

If the Controlling Party goes on-hook and it is treated as a mis-operation by the system, the Controlling Party telephone can be re-rung immediately. The MPO Enhancement allows the external Held Party to hear Ringback Tone while the Controlling Party telephone is being re-rung. This is the feature that requires the FRTA software package listed in the chart above.

Control tips



- ◆ Monitor your CDR printouts for evidence of mis-operated transfers. Look for “S” records and “N” records (many of them will be of a short duration). These records can indicate that external callers are not being handled properly by your internal users when they attempt to transfer.

Some treatments can have a negative impact on your callers and your business.

Find out the DN(s) of the user(s) from the CDR records and train these users again on the use of the Three Party Service options. You could also reassess the treatments you have chosen so that mis-operated calls are handled appropriately.

Administration tips



- ◆ FFC codes and the SPRE code cannot begin with a digit that is the same as one of the MPO Control Digits. If an FFC or a SPRE code begins with the MPO Control Digit, it will be processed as a Control Digit when an MPO situation arises.
- ◆ Discuss the call treatment options available with your system supplier. Take your users into consideration along with the types of callers that your users handle. Monitor what is happening after you implement your selections. You might have to make changes until you find the optimum configuration for all concerned.
- ◆ Determine if the users on your system will probably delay too long before entering Control Digits. If this will probably happen, you should also determine if the users will feel comfortable performing

Multi-Party Operations

a Register Recall to reconnect to a caller or whether they would prefer to have an automatic call treatment occur. You must also determine the call treatments that best suit your callers in this situation.

The safest setting for the Three Party Service Timer is the default (14 seconds). If the Controlling Party waits too long to dial a Control Digit, the user can perform a Register Recall during Overflow Tone and reconnect to the Active Party. The user can try to dial the Control Digit again without disconnecting either of the other two parties.

If Overflow Tone times out, you can configure the system so the user is automatically connected to the Active Party or is connected when they perform a Register Recall. Refer to the part in this module where the Three Party Service Timer is discussed.

Once you know the behavior of your users and the types of callers they handle, you can choose the setting for the CDTO timer. You can decide whether the MHLD setting should be YES or NO in LD 15. Discuss the settings with your system supplier. Follow-up with the users after you have implemented the features and timers to find out if modifications or further training is required.

Training tips



- ◆ It is not recommended that you mention all of the details related to the MPO features during training unless the users ask about them. Focus on how to operate the features, what to avoid, and what to do if in doubt.
- ◆ Tell your users that if they hear Overflow Tone when using Three Party Service they should use the switch-hook flash.
- ◆ Recovery of Mis-operation of Call Transfer will not work if the transferred party is external to the system. It works if the Held Party is external. Train users until they are comfortable transferring calls so they will not rely on the Recovery feature.
- ◆ If you have chosen to implement the Recall Ringing Cadence, tell users to make a point of answering when their telephones ring with this special cadence. The callers need their help since an earlier

Multi-Party Operations

transfer did not work. This is especially important if the caller is about to be disconnected as the next part of the treatment of the mis-operated Call Transfer, if the recall is not answered. Let the users know what the Recall Ringing Cadence sounds like during training.



- ◆ Stress during training that users must be careful to wait for an answer before transferring calls and advise them of the consequence of not waiting. For example, if the transferred party is busy with Call Waiting allowed, the Controlling Party hears ringingback but if the call is transferred, the Held Party will be disconnected. Mis-operations will be greatly reduced if users transfer calls only after getting an answer from the consulted party.
- ◆ Users who have more than one DN or a Call Waiting key on a digital or SL-1-type telephone should practice the Call Join feature in the training sessions until they are comfortable with the feature.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic Multi-Party Operations features and/or the optional related features associated with the basic feature.

Table 167
Checklist

Basic	Optional	Preparation
✓		Decide which users are to have Call Transfer allowed and which users are to have Three Party Service allowed instead.
✓		Decide which telephones need Conference 6 capability.
✓		Decide which recovery options you want for mis-operation of Call Transfer on Ringing No Answer (internal calls, external calls). Decide which recovery options you want for the "all other cases" scenarios (internal calls, external calls).
✓		Decide what Control Digits should be defined.
— continued —		

Multi-Party Operations

Table 167
Checklist (Continued)

Basic	Optional	Preparation
✓		Decide what setting you want for the Three Party Service timer (CDTO).
✓		If you have dial telephones that have a DTN Class of Service, consider changing them to DIP or consider implementing the Ignore Switch-hook Flash feature. Arrange for installation of Ground buttons on the telephones for users who need features that require a Register Recall.
✓		If your analog single line telephones are dial telephones, decide whether you want to implement Forced Register Recall.
✓		Decide if users should be forced to perform a Register Recall to return to a held call after Special Dial Tone times out.
✓		Decide if alternative treatments are/are not required for the Control Connection Disconnect option.
	✓	Set up training on: <ul style="list-style-type: none"> ◆ the use of Control Digits ◆ how to transfer calls ◆ the use of switch-hook flash during Overflow Tone ◆ the use of Call Join ◆ the sound of Recall Ringing cadence
	✓	Decide whether you want a Recall Ringing Cadence programmed. Investigate what type(s) of ringing you can have based on the tone generating cards in your system.
	✓	Decide whether you want Enhanced Music.
	✓	Decide whether you want Patience Tone.
	✓	Decide whether you want Ringback to External Parties.

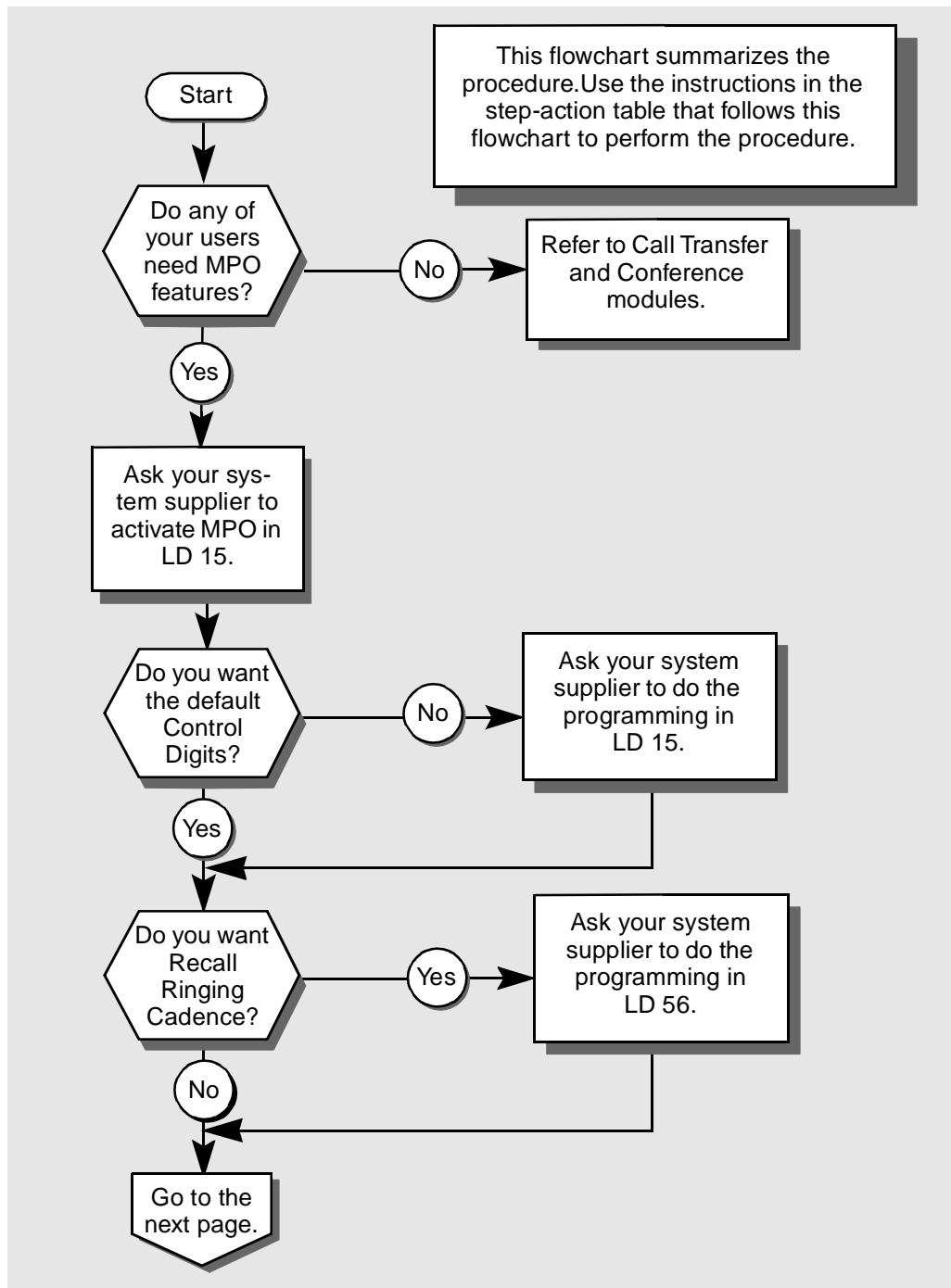
Multi-Party Operations

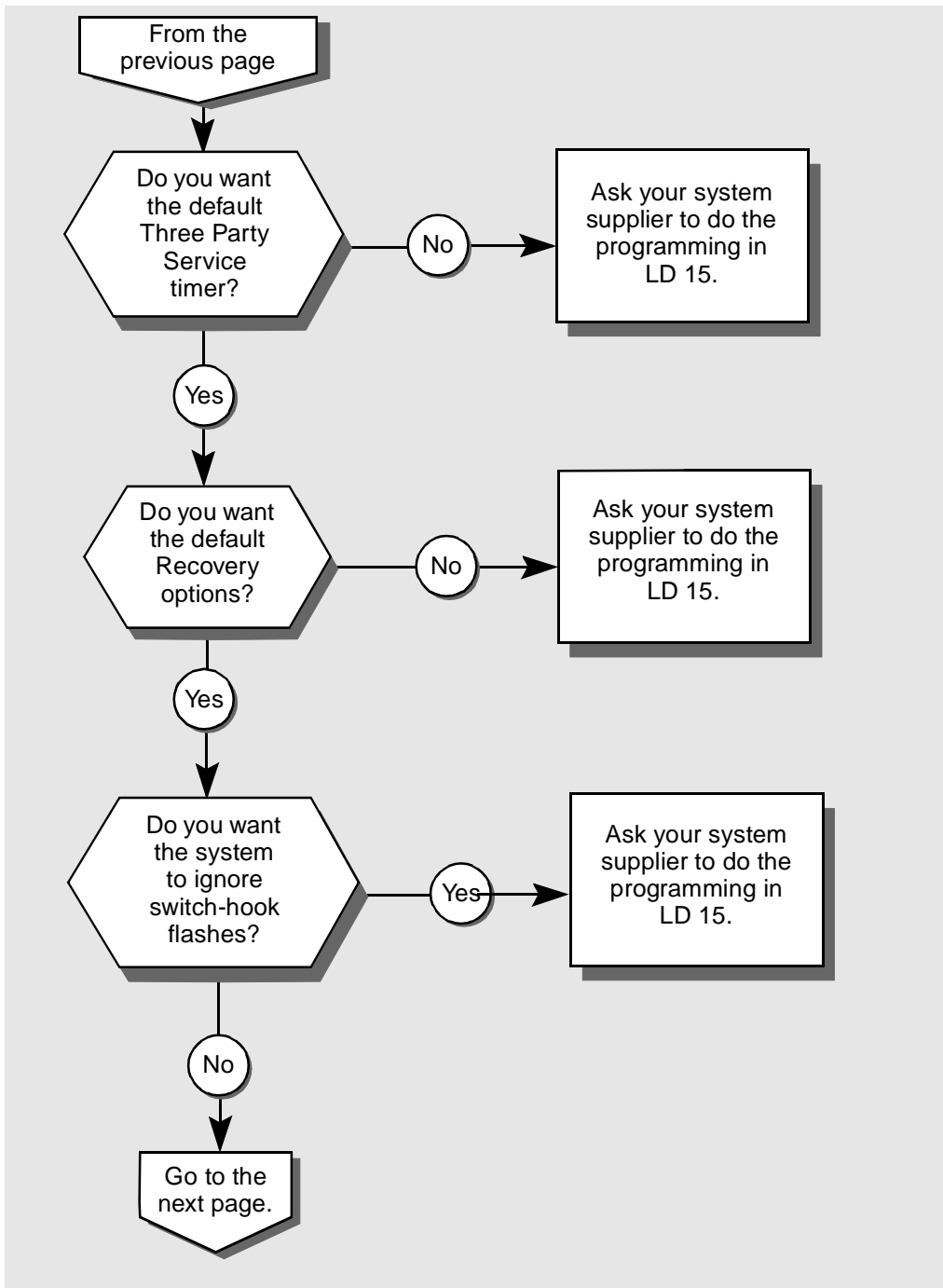
What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Multi-Party Operations.

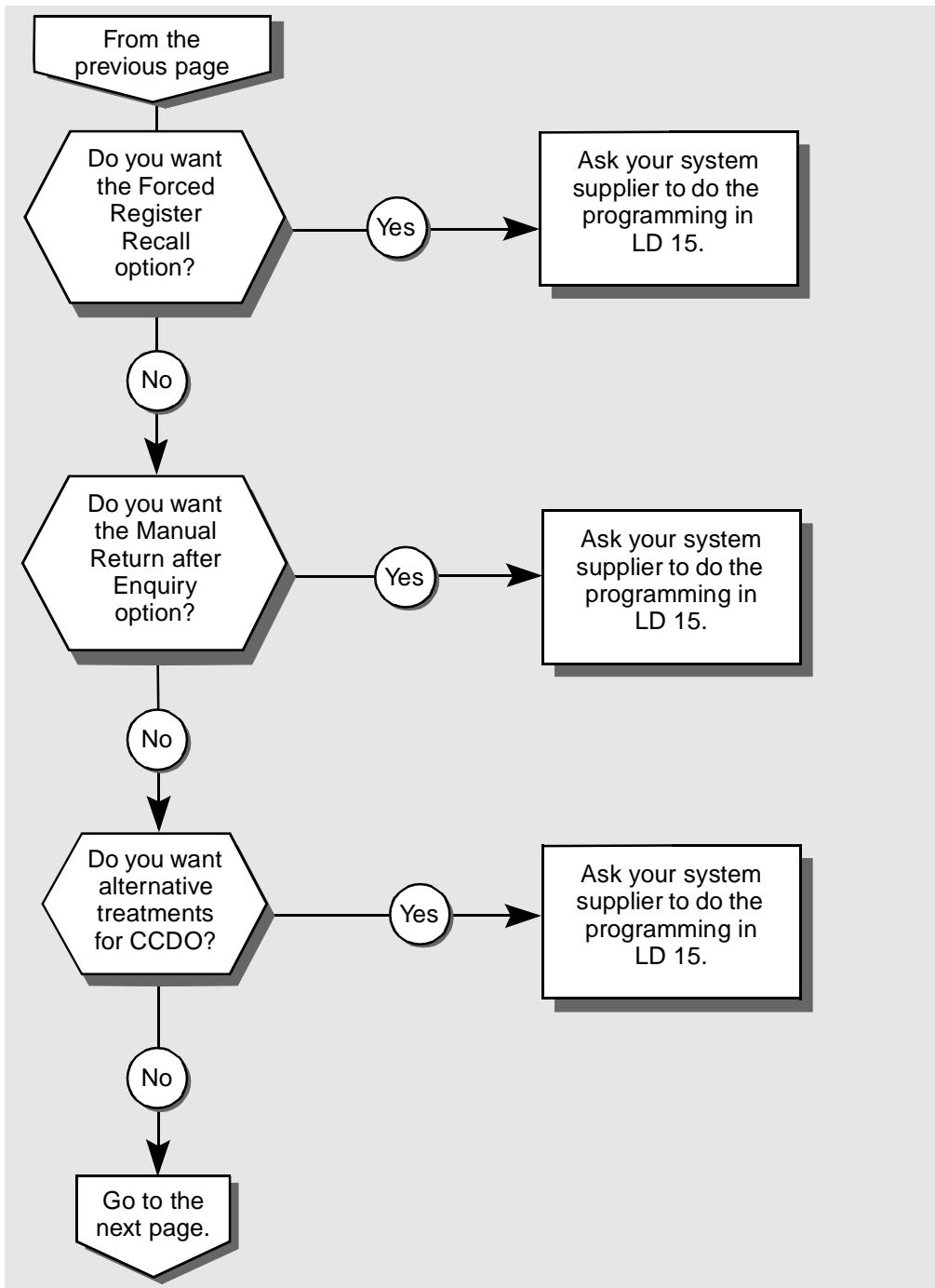
A step-action table follows the flowchart. Use it to do the programming steps necessary to implement this feature.

Multi-Party Operations

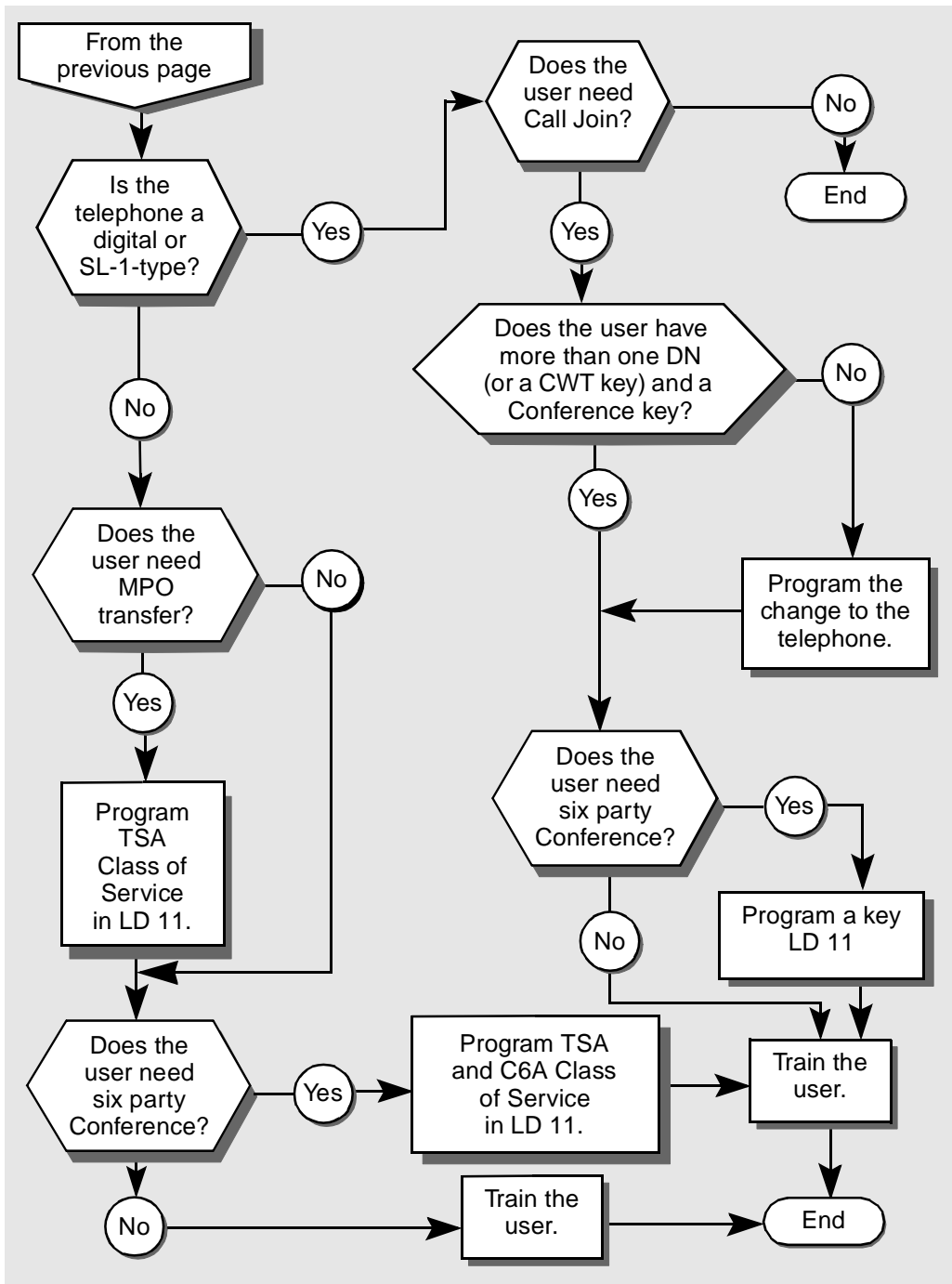


Multi-Party Operations

Multi-Party Operations



Multi-Party Operations



Multi-Party Operations

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Multi-Party Operations features only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION	
1	Log in.	
	For information on proper login procedures, see <i>Basic programming instructions</i> in this book.	
2	Choose the feature you want to program.	
	If	Do

	Three Party Service	step 3
	Conference 6	step 3
	Call Join	step 3
3	Choose your starting point from the choices below.	
	If	Do

	new dial or Digitone-type telephone	step 6
	change to a dial or Digitone-type telephone	step 7
4	Choose your starting point from the choices below.	
	If	Do

	new dial or Digitone-type telephone	step 14
	change to a dial or Digitone-type telephone	step 7
	— continued —	

Multi-Party Operations

STEP	ACTION	
5	Choose your starting point from the choices below.	
	If	Do
	new digital or SL-1-type telephone	step 22
	change to a digital or SL-1-type telephone	step 23
6	Program Three Party Service on a new dial or Digitone-type telephone.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1– 6 for information.
	carriage return until you see the prompt CLS	
	CLS TSA	Three Party Service allowed
	Go to step 24.	
7	Program a change to the Three Party Service feature on a dial or Digitone-type telephone.	
	> LD 10	
	REQ CHG	Program a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
— continued —		

Multi-Party Operations

STEP	ACTION		
7 continued ...			
	If		Do

	using "Easy Change"		Input YES and go to step 8.
	not using "Easy Change"		Input NO or <cr> and go to step 11.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.		
8	Program an "Easy Change" to an existing dial or Digitone-type telephone.		
	If		Do

	telephone is changing to Three Party Service allowed		step 9
	telephone is changing to Three Party Service denied		step 10
9	Allow Three Party Service.		
	ITEM	CLS TSA	Change the Class of Service to Three Party Service allowed
			If the telephone has XFA (Call Transfer allowed), it automatically changes to XFD (Call Transfer denied) when you allow Three Party Service. If you type XFA followed by TSA, the last one typed is the one that will be allowed. The other will be denied, automatically.
	Go to step 24.		
— continued —			

Multi-Party Operations

STEP	ACTION		
10	Deny Three Party Service.		
	ITEM	CLS TSD	Change the Class of Service to Three Party Service denied
	Go to step 24.		
11	Program a change (not an "Easy Change") to an existing dial or Digitone-type telephone.		
	Carriage return until you see the prompt CLS		
	If		Do
		
	telephone is changing to Three Party Service allowed		step 12
	telephone is changing to Three Party Service denied		step 13
12	Allow Three Party Service		
	CLS	TSA	Change the Class of Service to Three Party Service allowed
	Go to step 24.		
13	Deny Three Party Service.		
	CLS	TSD	Change the Class of Service to Three Party Service denied
	Go to step 24.		
— continued —			

Multi-Party Operations

STEP	ACTION	
14	Program Conference 6 on a new dial or Digitone-type telephone.	
	> LD 10	
	REQ	NEW Program a new telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
		program the basics... Refer to Tasks 1 – 6 for information.
		carriage return until you see the prompt CLS
	CLS	TSA C6A Three Party Service allowed and Conference 6 allowed
		Go to step 24.
15	Program a change to the Conference 6 feature on a dial or Digitone-type telephone.	
	> LD 10	
	REQ	CHG Program a change to an existing telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 8.
	not using "Easy Change"	Input NO or <cr> and go to step 11.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
	— continued —	

Multi-Party Operations

STEP	ACTION								
16	<p>Program an “Easy Change” to an existing dial or Digitone-type telephone.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is changing to Conference 6 allowed</td> <td>step 9</td> </tr> <tr> <td>telephone is changing to Conference 6 denied</td> <td>step 10</td> </tr> </tbody> </table>	If	Do	telephone is changing to Conference 6 allowed	step 9	telephone is changing to Conference 6 denied	step 10
If	Do								
.....								
telephone is changing to Conference 6 allowed	step 9								
telephone is changing to Conference 6 denied	step 10								
17	<p>Allow Conference 6.</p> <p>ITEM CLS TSA C6A Change the Class of Service to Three Party Service allowed and Conference 6 allowed</p> <p>Go to step 24.</p>								
18	<p>Deny Conference 6.</p> <p>ITEM CLS C6D Change the Class of Service to Conference 6 denied</p> <p>Go to step 24.</p>								
19	<p>Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.</p> <p>Carriage return until you see the prompt CLS</p>								
— continued —									

Multi-Party Operations


STEP	ACTION	
19 continued ...		
	If	Do

	telephone is changing to Conference 6 allowed	step 12
	telephone is changing to Conference 6 denied	step 13
20	Allow Conference 6.	
	CLS TSA C6A	Change the Class of Service to Conference 6 allowed
	Go to step 24.	
21	Deny Conference 6.	
	CLS C6D	Change the Class of Service to Conference 6 denied
	Go to step 24.	
22	Install a new digital or SL-1-type telephone with Call Join capability.	
	Ensure the telephone has at least two DNs assigned. Refer to Tasks 7-19 for information on how to assign a DN to a key.	
	If the telephone has a Call Waiting key, it can be used instead of a second DN for Call Join. Refer to the Software Features Guide for information on the Call Waiting feature.	
23	Program a change to a telephone to allow the Call Join feature.	
	Assign a second DN to the telephone using an available key or remove a feature from a key and replace it with a DN. Refer to Task 23 for information on how to change key assignments on digital telephones. (Use the same information for SL-1-type telephones).	
	Or if you prefer, If the telephone only has one DN, you can change a key to a Call Waiting key. Refer to the Software Features Guide for more information.	
— continued —		

Multi-Party Operations


STEP	ACTION						
24	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 25.</p>						
25	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the new telephone or the changed telephone behaves as expected when you attempt to use the MPO features.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 26</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 26	feature does not work properly	step 1
If	Do						
feature works properly	step 26						
feature does not work properly	step 1						
26	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 27</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 27
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 27						

Multi-Party Operations

STEP	ACTION								
27	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>								
28	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA</p> <p>or</p> <p>DATA DUMP COMPLETE</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="border-top: 1px dotted black; padding-top: 5px;"></td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 29</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do			data dump fails	Contact your system supplier.	data dump succeeds	step 29
If	Do								
data dump fails	Contact your system supplier.								
data dump succeeds	step 29								

Multi-Party Operations

STEP	ACTION
29	Terminate this overlay program. • ****
30	Terminate this programming session. Log off. > LOGO
31	You have completed the programming required to add or change an MPO feature on a telephone.



1074 During a call

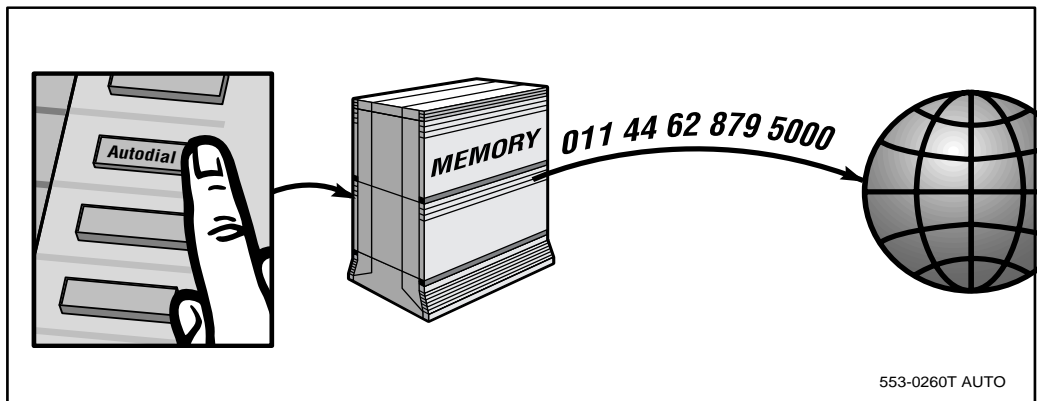
of 1776

Multi-Party Operations

Autodial

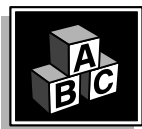
Purpose

The Autodial feature allows a user who is initiating a call to press one key to make a call. A telephone number has been associated with that key in the memory of the system. The number is automatically outpulsed for the user.



Autodial

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Autodial feature
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Autodial comes with the communication system, but the telephones are not programmed to use the Autodial capability. You select the telephones that are to have Autodial, then you use the procedure in this module to program each one.

Digital telephones, SL-1-type telephones and attendant consoles

The feature is assigned to a key on a proprietary telephone. It can be assigned to attendant consoles as well.

Autodial keys cannot be assigned to M3000 digital telephones. The M3000 has a built-in directory that can be programmed to display hundreds of stored numbers on the large display of the telephone. Therefore, the Autodial feature is not required.

You can assign more than one Autodial key on a telephone or console.

Autodial keys can be used to store frequently called numbers. Some people use several Autodial keys to store different numbers.

The alternative is to use one Speed Call key to store several numbers on a Speed Call list. With Speed Call, the user must dial one, two, or three digits after pressing the Speed Call key in order for a number to be outpulsed. Therefore, some users find the Autodial feature quicker, and easier to use than the Speed Call feature. Refer to Task 32, *Speed Call and System Speed Call* for further information.

It is not uncommon to see modules added to telephones so that the users can have rows of Autodial keys.

Some people like the Autodial feature because it gives them quick access to a telephone number. They have no need to remember the number or look it up.

- ◆ This is beneficial in a help desk or an emergency desk environment. The user can press an Autodial key to call the police and another key to call the fire department.
- ◆ People who make many calls every day find it useful to have Autodial keys for the numbers they dial frequently.

Dial and Digitone-type telephones

There are models of Digitone-type telephones that have buttons that allow you to store numbers in the memory of the telephone. This is different from the way the Autodial feature stores numbers. Numbers stored on Autodial keys of digital and SL-1-type telephones are stored in the system memory.

If a user of a dial or Digitone-type telephone is interested in using Autodial, you can program Autodial as a feature on the telephone, if you have the Flexible Feature Code software package and release 20 equipped on your system. For further information, refer to the *Improving feature performance* part of this module.

Programming the telephone

When you assign the Autodial (ADL) feature to a key, you can determine the maximum number of digits the user will be able to store. The choices are 4, 8, 12, 16, 20, and 23 digits. The default is 16 digits, if you do not enter any number when you are programming.

You can also program the actual digits to be stored. It is not necessary for you to do this, since the user can program and re-program the stored number using the telephone.

When you print a TN Block printout of a telephone with an Autodial key, it shows you the number that the user has stored on the key.

Autodial

The types of numbers that can be stored

- ◆ internal DNs
- ◆ external telephone numbers including the trunk group access codes
- ◆ ESN numbers including BARS and NARS access codes
- ◆ trunk group access codes such as paging trunk access codes
- ◆ Authorization Codes (Release 13 and later)

Some users store part of a number that is frequently dialed and finish the remaining part of the call manually.

Examples:

- ◆ If a user calls a certain city or area code in North America frequently, an Autodial key could have the trunk group access code and the area code stored. The user would dial the remaining digits each time they made a call.
- ◆ If there is zone paging equipment, the user could store the paging access code on the Autodial key and manually dial the desired zone before paging.

Pauses can be stored if you require the system to pause after outputting one digit, before outputting the next.

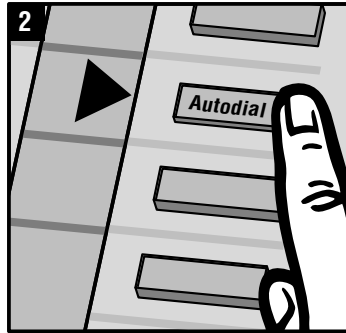
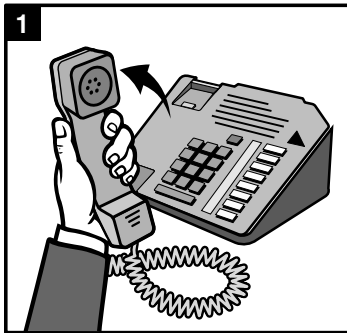
You enter the asterisk (*) from the key pad when you are storing the number. This * indicates to the system that it should pause for three seconds before outputting the next digit that follows the *.

Using the feature

SL-1-type and digital telephones

Making a call

The user presses the Autodial key after getting dial tone. The call will be processed and outpulsed automatically.



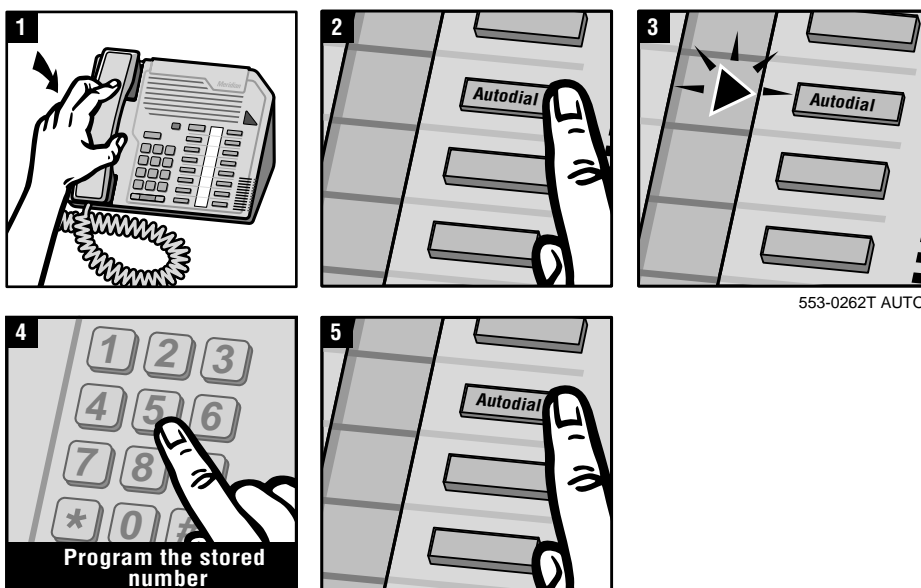
553-0261T AUTO

Autodial

Storing a number

If a user wants to change the number that is stored on the key, it must be done when the telephone is in an idle state. If the telephone is receiving dial tone or has an active call, the Autodial number cannot be changed.

If the telephone is idle, and the user presses the Autodial key, the indicator beside it begins to flash. The user presses the keys on the key pad to enter the digits in the number to be stored. When all the digits have been entered, the user presses the Autodial key again and the indicator is turned off.



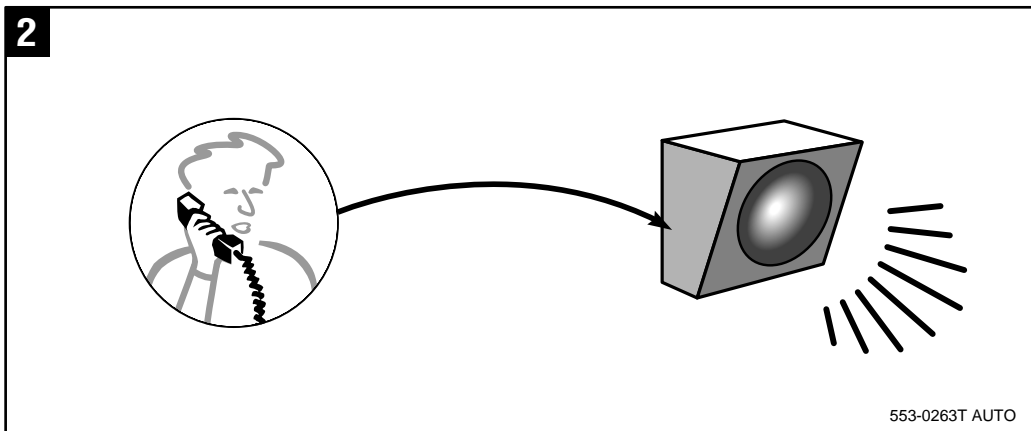
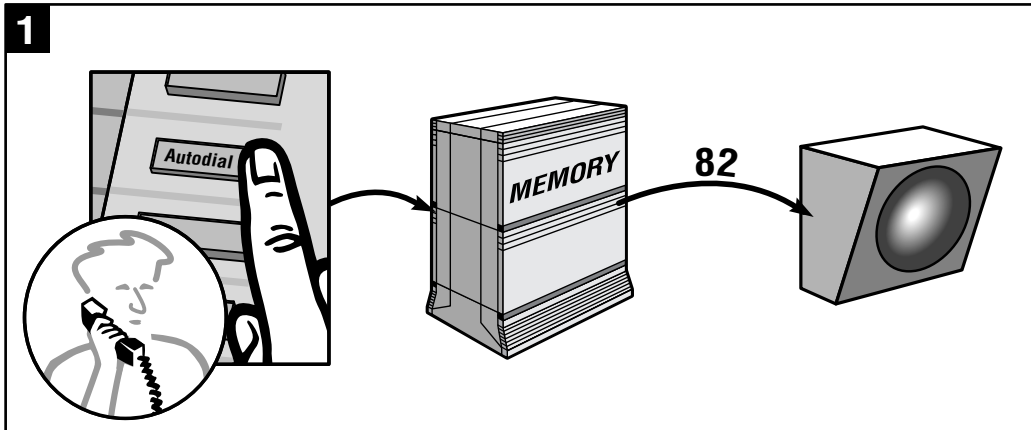
Interactions with other features

Autodial works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems. Proper training can reduce the number of repair calls of this nature.

Paging trunks interact with Autodial

Trunk group access codes can be stored on Autodial keys. Paging trunks have trunk group access codes. Users dial the access code in order to speak on the paging system. If a user pages frequently, assign an Autodial key to the telephone and have the user store the paging trunk access code on the key. This simplifies access to the system.



553-0263T AUTO

The attendant console is the only terminal that can be assigned a direct access paging key (PAG). Use of the PAG key overrides anyone else on the paging system.

Autodial

Authorization Codes interact with Autodial

If a user wants to store an Authorization code on an Autodial key, it must be stored in the following format:

- ◆ the SPRE code
- ◆ plus the digit 6
- ◆ plus the Authorization code
- ◆ (optionally followed by the telephone number)

If the telephone number is being stored, the user must store an octothorpe (#) after the Authorization Code. The # indicates to the system where the Authorization Code ends and where the digits in the telephone number begin. The # is counted as a digit when the system compares the number of digits stored with the maximum number of digits programmed for the Autodial key.

The telephone number cannot be stored using the Authorization Code Conditionally Last capability. In other words, the telephone number cannot be stored with pauses following it, awaiting an Authorization code prompt tone, at which time the Authorization code would be outpulsed.

A user can store an invalid Authorization Code on an Autodial key. The Authorization Code is only validated when the call is made and the Authorization Code is outpulsed.

Last Number Redial interacts with Autodial

If a user makes a call using the Autodial feature, it is stored by the system as the last number dialed. If the user activates the Last Number Redial feature for the next call, the Autodial telephone number will be outpulsed.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Dial and Digitone-type telephones

Table 168
Software requirements

Release required	Software package(s) required
20	139 – Flexible Feature Codes (FFC)

When a dial or Digitone-type telephone handset is off-hook for a pre-programmed number of seconds and no number is dialed, an Autodial number can be outpulsed, automatically.

Flexible Feature Code Enhancements and Release 20 software are required.

Your system supplier can program an Autodial feature activation code that the users will dial in order to activate the Autodial feature and store an Autodial number. The users must dial a separate code to deactivate Autodial.

There is a delay timer that must be programmed on a customer-wide basis in LD 15. This delay is the amount of time the dial or Digitone-type telephones in that customer group will have to be off-hook before the Autodial number will be outpulsed. The range for this timer is two to 20 seconds. It must be set in increments of two seconds. A setting of zero means the feature is disabled for the customer group. Zero is the default setting.

Each telephone that is to have the Autodial capability must have it activated as a feature (FTR) in LD 10. You program the FTR prompt with an ADL response followed by a space. After the space, you type the maximum number of digits that the user can store. The range is 0 – 31 digits. If you type 0, the feature is disabled for that telephone.

Following that:

- ◆ you can enter the number to be stored. Type a space after the maximum digits entry if you want to type the stored number. After the space type the digits in the stored number followed by a carriage return.
- ◆ you can allow the user to store the number. Carriage return after the maximum digits entry.

Autodial

Control tips



- ◆ If you do not want users to change the stored numbers on Autodial keys, do not show them how to do it when you train them to use the feature.

Alternately, you can assign a different feature key called Enhanced Hot Line if you want guaranteed control. A user cannot change the number stored on an Enhanced Hot Line key from the telephone.

- ◆ Users sometimes store numbers that they are restricted from calling. The system evaluates the restrictions programmed on the telephone before the call is processed. When the users attempt to make these calls using Autodial keys they continue to be blocked.

It is important to program TGAR restrictions on telephones of unauthorized users who might attempt to use the paging trunks by dialing paging trunk group access codes or by using Autodial keys.

- ◆ As a security measure, for dial and Digitone-type telephone users, you can use this feature to outpulse an emergency number, if users leave their handsets off-hook.
- ◆ Users sometimes leave their handsets off-hook when they do not want to be disturbed. When Digitone-type telephone users leave their handsets off-hook, it ties up digitone receiver cards. This can cause other users to experience delayed dial tone. To prevent this, you can program an internal number as the outpulsed number when users leave their handsets off-hook. The person at the Autodial number can tell the users, to use other features, such as Call Forward All Calls, when they do not want to be disturbed. Doing this can reduce the usage of the digitone receivers on your system and improve your grade of service for dial tone.

Administrative tips



- ◆ When you look at TN Block printouts of the telephones on your system, pay attention to the Autodial keys and the numbers that are stored. You can discover long distance numbers that are appearing on your CDR records that users deny calling.
- ◆ When a call is made using an Authorization Code, and it is dialed manually, the Authorization Code does not appear on the telephone display.
However, if a user stores an Authorization Code on an Autodial key of a telephone with a display, the Authorization Code will display when a call is made using the key. Unauthorized users may see the Authorization Code on the display and make calls using the code at a later time. Tell users to store Authorization Codes on Autodial keys at their own risk.
- ◆ The Stored Number Redial feature is similar to Autodial. Using Stored Number Redial, the user can store one number and redial it when desired, using feature access codes, or keys. A unique aspect of Stored Number Redial is that it allows the user to store a number while a call is active.

Other features that make placing calls easy are:

- Last Number Redial
- Hotline

Refer to the Software Feature Guide for further information on these features before you choose to implement Autodial.

Autodial

Training tips



- ◆ When you look at TN Block printouts of the telephones on your system, pay attention to the Autodial keys and the numbers that are stored. Look for numbers that do not make sense, such as partial access codes or partial telephone numbers. This can indicate that the user needs further training on how to store a number on the key.
- ◆ Tell users of dial and Digitone-type telephones about the Autodial delay timer. They must dial a number within the number of seconds you programmed for this timer. Tell them what number will be dialed, automatically, if they delay too long and you have pre-programmed the Autodial number.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic Autodial feature and/or the optional related features associated with the basic feature.

Table 169
Checklist

Basic	Optional	Preparation
✓		Decide how many Autodial keys the user needs.
✓		Determine if there are available key(s). If not, consider upgrading the telephone to one with more keys or adding a module with extra keys.
✓		Decide for each key, what the maximum number of digits to store will be.
✓		Decide if you are going to be the one to program the stored number or if you will train the user to store and change a number using the telephone.
✓		Plan to train users on making calls using Autodial.

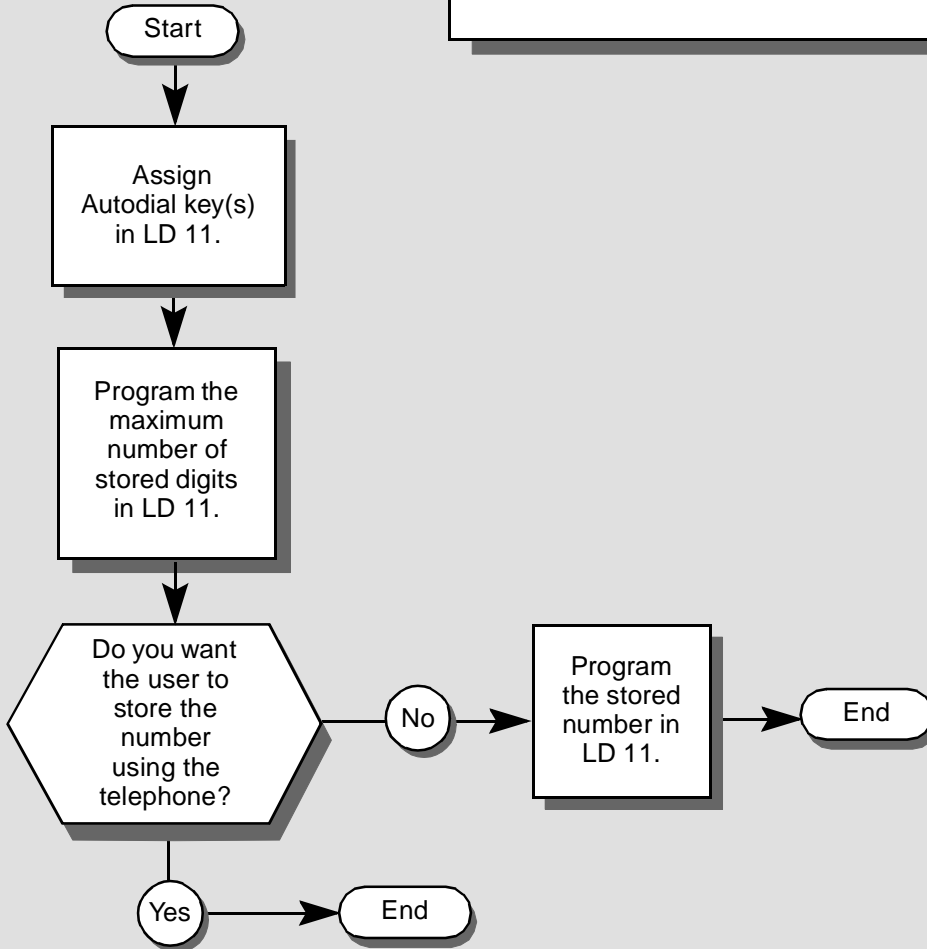
What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Autodial.

A step-action table follows the flowchart. Use it to do the programming steps necessary to implement this feature.

Autodial

This flowchart summarizes the procedure. Use the instructions in the step-action table that follows this flowchart to perform the procedure.



The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Autodial feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION									
1	Log in. For information on proper login procedures, see <i>Basic programming instructions</i> in this book.								
2	Choose the proper starting point from the choices below								
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you are programming an Autodial key on a new telephone</td> <td>step 3</td> </tr> <tr> <td>you are changing a key to assign Autodial on an existing telephone</td> <td>step 4</td> </tr> <tr> <td>you are changing existing Autodial key parameters</td> <td>step 4</td> </tr> </tbody> </table>	If	Do	you are programming an Autodial key on a new telephone	step 3	you are changing a key to assign Autodial on an existing telephone	step 4	you are changing existing Autodial key parameters	step 4
If	Do								
you are programming an Autodial key on a new telephone	step 3								
you are changing a key to assign Autodial on an existing telephone	step 4								
you are changing existing Autodial key parameters	step 4								
3	Program the Autodial feature on a new SL-1-type or digital telephone.								
	<pre>> LD 11 REQ NEW Program a new telephone TYPE Input correct type of SL-1 or digital telephone TN L S C U Input the Terminal Number of the telephone program the basics... Refer to Tasks 7-19 for information. carriage return until you see the prompt KEY KEY</pre>								
— continued —									

Autodial

STEP	ACTION
3 continued ...	
If	Do
.....
you want to program the default stored number maximum length and no stored number	<p>XX ADL <cr> where XX represents the key number ADL stands for Autodial</p>
you want to program a stored number maximum length and no stored number	<p>XX ADL YY <cr> where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) <cr> leaves the stored number field blank. The user can store a number using the telephone.</p>
you want to program a stored number maximum length and a stored number	<p>XX ADL YY Z...Z where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) Z...Z represents the stored number</p>
Go to step 10.	
— continued —	

STEP	ACTION	
4	Print the information associated with the telephone.	
	If	Do
	you know the TN of the telephone	step 6
	you do not know the TN of the telephone, you know only the prime DN of the telephone	step 5
5	Print the DN Block of the telephone.	
	> LD 22	(Release 17 or later)
	> LD 20	(Release 17 or later)
	> LD 10 or LD 11	(Release 19 or later)
	> LD 32	(Release 19 or later)
	REQ PRT	Request a printout
	TYPE DNB	DN Block
	DN X . . X	Input the prime DN of the telephone
	You get a printout of the TN of the telephone.	
	Go to step 6.	
— continued —		

Autodial

STEP	ACTION	
6	Print the TN block of the telephone.	
	> LD 20	(pre-Release 19 software)
	> LD 10 or LD 11 or LD 20	(Release 19 or later software)
	REQ	PRT Request a printout
	TYPE	TNB Terminal Number Block
	TN	L S C U Input the Terminal Number assigned to the other telephone (Loop number, Shelf number, Card number, Unit number)
	Choose the key number(s) you want to change.	
7	Program a change to a key on an SL-1-type or digital telephone.	
	> LD 11	
	REQ	CHG Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 8.
	not using "Easy Change"	Input NO or <cr> and go to step 9.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		


STEP ACTION	
8 Program an “Easy Change” to an existing SL-1-type or digital telephone.	
If	Do
.....	
you want to program the default stored number maximum length and no stored number	ITEM KEY XX ADL <cr> where XX represents the key number ADL stands for Autodial
you want to program a stored number maximum length and no stored number	ITEM KEY XX ADL YY <cr> where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) <cr> leaves the stored number field blank. The user can store a number using the telephone.
you want to program a stored number maximum length and a stored number	ITEM KEY XX ADL YY Z...Z where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) Z...Z represents the stored number
Go to step 10.	
9 Program a change (not an “Easy Change”) to an existing SL-1 -type or digital telephone.	
Carriage return until you see the prompt KEY	
— continued —	


Autodial

STEP	ACTION
9 continued ...	
If	Do
.....
you want to program the default stored number maximum length and no stored number	<p>XX ADL <cr> where XX represents the key number ADL stands for Autodial</p>
you want to program a stored number maximum length and no stored number	<p>XX ADL YY <cr> where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) <cr> leaves the stored number field blank. The user can store a number using the telephone.</p>
you want to program a stored number maximum length and a stored number	<p>XX ADL YY Z...Z where XX represents the key number ADL stands for Autodial YY represents the maximum number of digits in the stored number (YY = 4, 8, 12, 16, 20, 23) Z...Z represents the stored number</p>
Go to step 10.	
— continued —	

STEP	ACTION						
10	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>						
11	<p>Check that the feature works on the telephone which you have just programmed.</p> <p>Refer to the <i>Using the feature</i> part of this module for instructions on the proper use of the feature.</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>the feature works</td> <td>step 12</td> </tr> <tr> <td>the feature does not work</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	the feature works	step 12	the feature does not work	step 1
If	Do						
the feature works	step 12						
the feature does not work	step 1						
12	<p>Arrange for a data dump to be performed.</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 13</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 13
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 13						

Autodial

STEP	ACTION								
13	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>See the <i>Basic programming instructions</i> module of this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>								
14	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA</p> <p>or</p> <p>DATA DUMP COMPLETE</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">If</th> <th style="text-align: left; width: 50%;">Do</th> </tr> </thead> <tbody> <tr> <td colspan="2"><hr style="border-top: 1px dotted black;"/></td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 15</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	<hr style="border-top: 1px dotted black;"/>		data dump fails	Contact your system supplier.	data dump succeeds	step 15
If	Do								
<hr style="border-top: 1px dotted black;"/>									
data dump fails	Contact your system supplier.								
data dump succeeds	step 15								

STEP	ACTION
15	Terminate this overlay program. • ****
16	Terminate this programming session. Log off. > LOGO
17	You have completed the programming required to add or change the Autodial feature on a telephone.
	

1098 Making calls

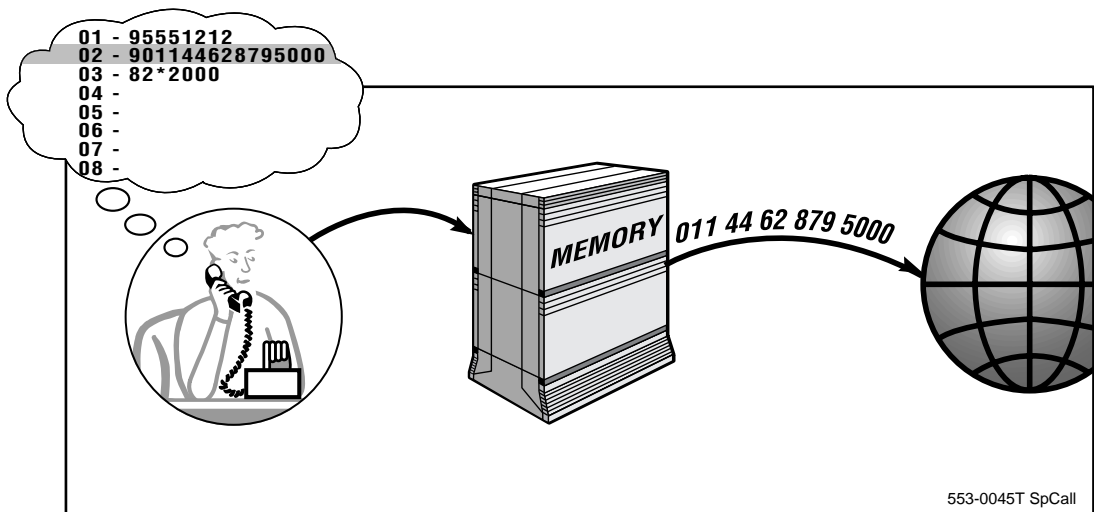
of 1776

Autodial

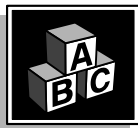
Speed Call and System Speed Call

Purpose

Speed Call allows you to place calls by dialing very few digits.



Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the Speed Call feature
- ◆ what you need to know to manage interactions with other features

Speed Call and System Speed Call

Setting up the feature

Speed Call comes with the communication system, but the telephones do not come programmed to use the capability. System Speed Call is a separate software package that is included with most systems today.

You select the telephones that are to have Speed Call and/or System Speed Call, then you use the procedure in this module to program each one.

Numbers to be dialed using the two Speed Call features are stored in lists in the system Memory. The capacity a system has for lists is shared by both kinds of Speed Call (as well as Hot Line lists which are not covered in this book).

Speed Call lists and System Speed Call lists are programmed in overlay program (LD) 18, along with Hot Lines. Overlay program (LD) 18 is beyond the scope of this book. Have your system supplier program the parameters related to the list(s) for you, or, if your maintenance agreement permits, refer to the *X11 input/output guide* and program the list(s) yourself.

If your system has software prior to Release 19, each list must be configured in overlay program 18 individually. Release 19 allows up to 100 Speed Call lists to be added or copied at one time.

Before you can program the telephones to have access to either Speed Call feature, each Speed Call list in the system Memory must be configured for the parameters in the table below.

Table 170
Speed Call capacities

Parameter	Description
maximum number of Speed Call lists per system	Release 13 and later– 8191 Prior to Release 13– 255
maximum number of System Speed Call lists per system	Release 13 and later– 4096 Prior to Release 13– 255
maximum number of entries in each list	1000 (prior to Release 13 Speed Call entry limit – 100)
maximum number of digits per entry	31

Speed Call and System Speed Call

System Speed Call

In addition to abbreviated dialing, System Speed call also allows a user to temporarily override their telephone's Class of Service, Trunk Group Access Restrictions, and code restrictions. This provides them temporarily with an Unrestricted Access Restriction level. Users can then have access to toll numbers, as long as the numbers they need to call are stored on a System Speed Call list that they can access. In this way, you can allow users to dial approved long distance numbers only.

Storing numbers

Numbers can be stored on an existing list using the TTY or using a telephone.

When storing an external number on a Speed Call list, enter the appropriate trunk group access code in front of the digits in the call. For example, an external number in North America, such as 555-1212 would be stored as 95551212.

If a pause for dial tone is required between digits, use the asterisk (*). The * gives you a 3 second pause between digits.

If the call is to be routed to another type of system first, and outpulsed from there, find out if that system requires a pause after the trunk access code, before the other digits in the number are outpulsed.

SL-1, Meridian SL-1 and Meridian 1 systems do not require a pause for dial tone after a COT (Central Office Trunk) access code such as 9.

Example: if you want to send calls over a TIE trunk and then outpulse 5551212 from the system at the other end, store the number as follows.

If 82 is the TIE trunk access code and the other system requires a pause for dial tone, store the number as 82*9*5551212. Experiment with the number of pauses until you find a sequence of digits and pauses that works every time.

You can store an octothorpe (use the # key) at the end of the digits to indicate end of dialing. This speeds up outpulsing of the call.

Speed Call and System Speed Call

Users and Controllers

When you program a telephone as a *Speed Call Controller*, a user can program new entries on the Speed Call list, change entries and remove entries using that telephone. The person can also make calls using Speed Call from that telephone.

When you program a telephone as a *Speed Call User*, a person can only dial calls using the Speed Call list(s) assigned. A Speed Call User cannot modify the programming of the entries on the list.

There is no limit to the number of Users who can share one list. You can also designate more than one Controller for one list. However, this is not recommended. One Controller could accidentally reprogram entries that other Controllers of the same list have programmed. This results in frustration for the users of the list.

Dial and Digitone-type telephones

Assign Speed Call to a dial or Digitone-type telephone as a feature that the user accesses by dialing a feature code.

Dial or Digitone-type telephones can have access to one Speed Call list only, either as a User or a Controller. These types of telephones can access one System Speed Call list as well, as a User only.

SL-1 and digital telephones

Assign Speed Call to an SL-1 or digital telephone as a feature that the user accesses by pressing a dedicated key. The feature key accesses one list. These telephones can access more than one list. If a user needs access to more than one list, configure more than one key for Speed Call or System Speed Call.

You can program each key to have access to a Speed Call list as a Controller or a User, depending on the needs of the user.

These types of telephones can also use a feature access code to access one System Speed Call list, as a User. You enable that capability in the programming of the telephone.

Speed Call and System Speed Call

Using the feature

Dial and Digitone-type telephones

There is a feature access code for Speed Call Control and a different one for Speed Call Use. System Speed Call Use has a separate access code.

Dial telephone users dial the SPRE code plus 76 to use the Speed Call feature and SPRE code plus 75 to control the list.

Refer to the illustrations that follow for Digitone-type telephone instructions.

System Speed Call Use is done with the SPRE code plus 73.

Also, you can set up Flexible Feature Codes of your choice, if you have the FFC software package (139).

SL-1 and digital telephones

Users must press the Speed Call key, after getting dial tone, to make a call using Speed Call. To program a number, the Speed Call key is pressed when there is no active DN.

The SPRE code plus 73 is used for System Speed Call Use or there can be a key. System Speed Call Control is always assigned to a key.

Entry numbers

Users must dial an entry number after the feature access code or after pressing the feature key. The table which follows shows you what the entry numbers might be.

Table 171
Entry number ranges

Maximum number of entries on list	Entry numbers
10	0–9
100	00–99
1000	000–999

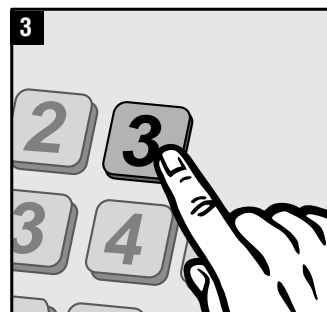
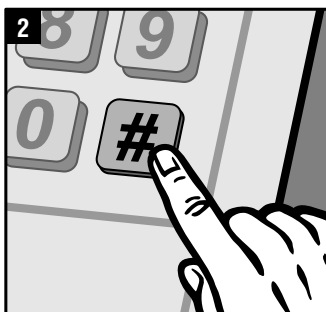
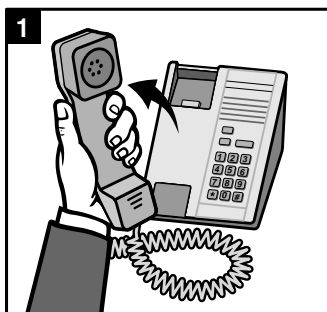
Speed Call and System Speed Call

Example: on a digital telephone, if key number 5 is programmed as a Speed Call User key, and there are 80 numbers on the Speed Call list, lift the handset, press key 5 and dial an entry number such as 42. The digits stored as entry 42 are automatically outpulsed for you.

Using the feature (continued)

Digitone-type telephones

Using Speed Call



553-0046T SpCall



→ Call is processed

Storing a number

Digitone telephone users programmed as Controllers can store numbers on the Speed Call list by pressing #2 followed by the entry number of the item to be stored. The entry number is a one, two or three digit code. The number to be stored follows the entry number.

Speed Call and System Speed Call

Speed Call Delimiter

In China, a delimiter signal must be entered between the entry code (1, 2, or 3 digit) and the number that is to be stored. The asterisk (*) character acts as this delimiter. The delimiter capability is activated on a customer basis.

Also, for digitone telephones, when programming Speed Call numbers, an end-of-dialing signal must be entered before hanging up. In China, the octothorpe (#) character acts as this signal. You can program the end-of-dialing signal as something other than an octothorpe, if you wish. After the signal is entered, signifying that dialing is finished, a confirmation tone is heard, if enabled. The end-of-dialing delimiter can be programmed, customer-wide, as mandatory or optional.

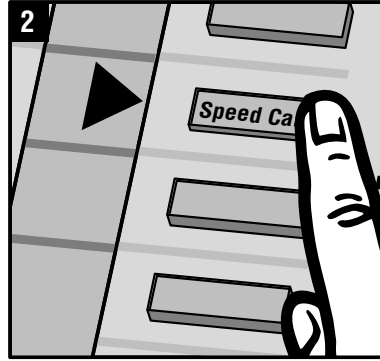
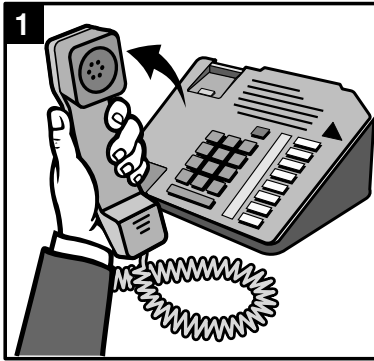
There is also a requirement for the user to enter an end-of-dialing signal before hanging up, when programming Speed Call numbers. In China, the # character acts as the signal. You can program another digit string for a signal, if you want. The user hears a confirmation tone after the signal, if this tone is enabled. The end-of-dialing capability is activated as mandatory or optional, customer-wide.

This feature is available for global use as of Release 22.

Speed Call and System Speed Call

SL-1-type and digital telephones

Using Speed Call



553-0047T SpCall



→ Call is processed

Storing a number

Controllers store numbers on the Speed Call list by pressing the Speed Call key. Storing a number will not be possible if the user is hearing dial tone at the moment.

If the lamp associated with the key begins to flash, this indicates that the key has been programmed as a Speed Call Controller key and the user may proceed with programming.

The user must dial the entry number of the item to be stored. The entry number is a one, two or three digit code. The number to be stored on the list follows the entry number. The user presses the key a second time, when the complete number has been stored.

Refer to the Digitone-type telephone instructions for information on Speed Call Delimiters introduced in Release 22.

Speed Call and System Speed Call

Interactions with other features

Speed Call works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of the sub-section tells you what you need. For further information you can use the *X11 features and services*.

Hot Line and System Speed Call interact with Speed Call

These two features use lists stored in the system Memory just like Speed Call does. The maximum number of lists shown earlier in this module is a maximum shared by Speed Call, System Speed Call and Hot Line lists.

A user of a dial or Digitone-type telephone can access one Speed Call list and one System Speed Call list.

Users of SL-1 or digital telephones can have different keys assigned to Speed Call lists and System Speed Call lists. These users can also dial a feature code for System Speed Call if they do not have a key available for it.

Refer to the *X11 features and services* for more information.

Authorization Codes interact with Speed Call

Authorization Codes are provided by an optional software package. Users dial Authorization Codes to identify themselves on CDR records for billing purposes, especially when making calls from telephones other than their own. The code has a Class of Service (CLS), Trunk Group Access Restriction (TGAR) and Network Class of Service (NCOS) assigned. During a call made with an Authorization Code, these restrictions take effect, overriding the restrictions programmed for the telephone.

Authorization Codes can be stored on Speed Call lists as of Release 13 software. However, for security reasons this is not recommended. Anyone using a Speed Call list entry that has a stored Authorization Code can dial a call which will be billed to the stored Authorization Code and not the user making the call.

Speed Call and System Speed Call

If you are going to allow this, store the Authorization Code digits preceding the rest of the digits to be outpulsed in the call. Store the octothorpe (#) after the Authorization code and before the remaining digits.

Private Lines interact with Speed Call

Private lines are business lines that terminate directly on telephones. They are used for incoming calls that bypass the attendant. They are also used for outgoing calls. When you dial a call on a Private Line, a trunk group access code is not required. The user hears dial tone directly from the Central Office when a call is initiated.

As of Release 15, a user can make a call using Speed Call on a Private Line even though there might be trunk group access codes stored. The access code digits are absorbed and are not outpulsed when the Private Line is used. No special software package is required for the Speed Call on Private Lines feature.

Speed Call and System Speed Call

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Memory

Speed Call lists use significant amounts of Memory. The greater the number of entries you set as a maximum on a list, the more Memory it uses. Memory is set aside for lists, *even those which have no actual numbers stored.* Refer to the Control tips, Administration tips and Training tips in this module for suggested ways of managing the use of Memory in the most efficient ways possible.



Message Intercept

With Release 15.58 F and later software, Message Intercept can give a recorded announcement when Speed Call numbers have been stored or erased properly by Speed Call Controllers. The message plays if the Flexible Feature Code method was used.

The telephone must have intercept allowed in its Class of Service and the confirmation announcement must be activated as well. Talk to your system supplier, if you want this functionality.

Table 172
Software requirements

Release required	Software package(s) required
15.58F	163 – Message Intercept (MINT)
	125 – Flexible Tones and Cadences (FTC)

Speed Call and System Speed Call

Pretranslation and System Speed Call Enhancement

The Pretranslation feature can modify what you dial so that other (usually more) digits are outpulsed. When you use System Speed Call with Pretranslation, the feature access code is analyzed by the Pretranslation feature and the stored number on the list is also analyzed. The Pretranslation and System Speed Call Enhancement allows you to activate or deactivate Pretranslation on a System Speed Call list entry. This is done on a customer group basis.

Table 173
Software requirements

Release required	Software package(s) required
23	34 – System Speed Call (SSC)
	92 – Pretranslation (PXLT)

Speed Call Directory Number Access

As of Release 15, in Flexible Feature Code programming, you can set up a code which allows people to use a particular Speed Call list or to control the list when a Flexible Feature Code is dialed. The code is called a Pilot DN. Each list to be accessed in this way has a unique code defined.

The user must dial the code followed by the entry number they wish to reach. There are network-wide applications of this feature. Discuss this feature with your system supplier, if you are interested in it.

Table 174
Software requirements

Release required	Software package(s) required
15 and later	120 – Group Hunt/DN Access to SCL (PLDN)
	131 – Supplementary Features (SUPP)
	139 – Flexible Feature codes (FFC)
	34 – System Speed Call (SSC)
	1 – Optional Features (OPTF)

Speed Call and System Speed Call

Set Based Administration Enhancements

If your system is equipped with this capability and you know the proper Flexible Feature Code and password, you can go to a telephone programmed for Administrator Access and change the Speed Call list number or System Speed Call list number(s) for any telephone in the customer group.

This method might be quicker and easier than using a TTY to make the change(s).

You can control the use of this capability by limiting the number of people who know the Flexible Feature Code and password.

Control tips



- ◆ You might choose not to designate any telephones as Speed Call Controllers, but instead to program the Speed Call lists from the TTY only. In this way, you can control the lists, checking them for duplicate numbers, incorrect entries and misprogrammed numbers.
- ◆ If programming of Speed Call is to be done using the TTY, allow the programmer to have enough time for this on a regular basis. Decide how much advance notice users must give when requesting a change.



- ◆ If there are many numbers which are stored on many users' lists, you might want to move these shared numbers to System Speed Call lists instead. This is a great way to use Memory on your system more efficiently.
- ◆ Ensure Controllers of System Speed Call lists are programming business-related numbers or approved numbers only. Restricted users with access to the System Speed Call lists override their restricted status when dialing numbers using System Speed Call.
- ◆ Tell users to be very careful if they store Authorization Codes on Speed Call lists. You should monitor Call Records and bills carefully to detect any abuse as quickly as possible.

Speed Call and System Speed Call

Administration tips



- ◆ To conserve memory, it is strongly recommended that you configure each list with the maximum number of entries and the maximum number of digits of each entry, for the user's actual needs.
- ◆ You might consider setting a policy where all lists are limited to the same number of entries. On an exception basis only, certain users might be able to exceed that limit with special permission from you.
- ◆ Print the lists on a regular basis to see if the following are stored:
 - sequences of digits which do not make sense
 - external numbers without trunk access codes
 - duplicate numbers
 - out-of-date numbers
 - no numbers or very few numbers
- ◆ You might consider taking out Speed Call lists which have no entries or which have entries that are not programmed correctly. Remove the Speed Call feature from the programming of the telephone as well. Give the user several warnings before doing this.
- ◆ If you warn people that you are going to reduce the Speed Call list size or remove the list completely when they do not use the feature properly, they are more likely to use the full capacity of the list and, as a result, use the feature to its fullest advantage.

They might also realize they do not need the capacity you gave them. You can then reduce the list capacity and save memory.
- ◆ You can have more than one Controller per Speed Call list but this is usually not a good idea. It is normal to have only one Controller for each list and several Users who share the same list. The Users can ask the Controller to make changes to the list, when required.

There is no limit to the number of users who can share one list.

Speed Call and System Speed Call



- ◆ *Users should be encouraged to share lists wherever possible as another method of saving memory.*
- ◆ While internal and external calls can be dialed using Speed Call, it is usually a waste of Speed Call memory when it is used for storing the digits for internal calls.
- ◆ Run Traffic Studies on the use of features to see how often the Speed Call feature is being used. If it is not, train users on Speed Call again. Lack of use is a good indicator that there may be unused lists to remove from the memory.

Refer to the module on *Traffic* in this book for further information. Refer to the TFC005 topic.

Training tips



- ◆ Train Speed Call Controllers on the proper programming of numbers on the Speed Call lists.
- ◆ Tell the Speed Call Users who their Controllers are and how to request Speed Call changes.
- ◆ Let users know your policies on what types of numbers are to be stored.
- ◆ Let users know if you are going to print out the lists regularly.
- ◆ Tell users what you plan to do when you find empty lists or lists with mostly incorrect numbers stored.

Speed Call and System Speed Call

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 175
Checklist

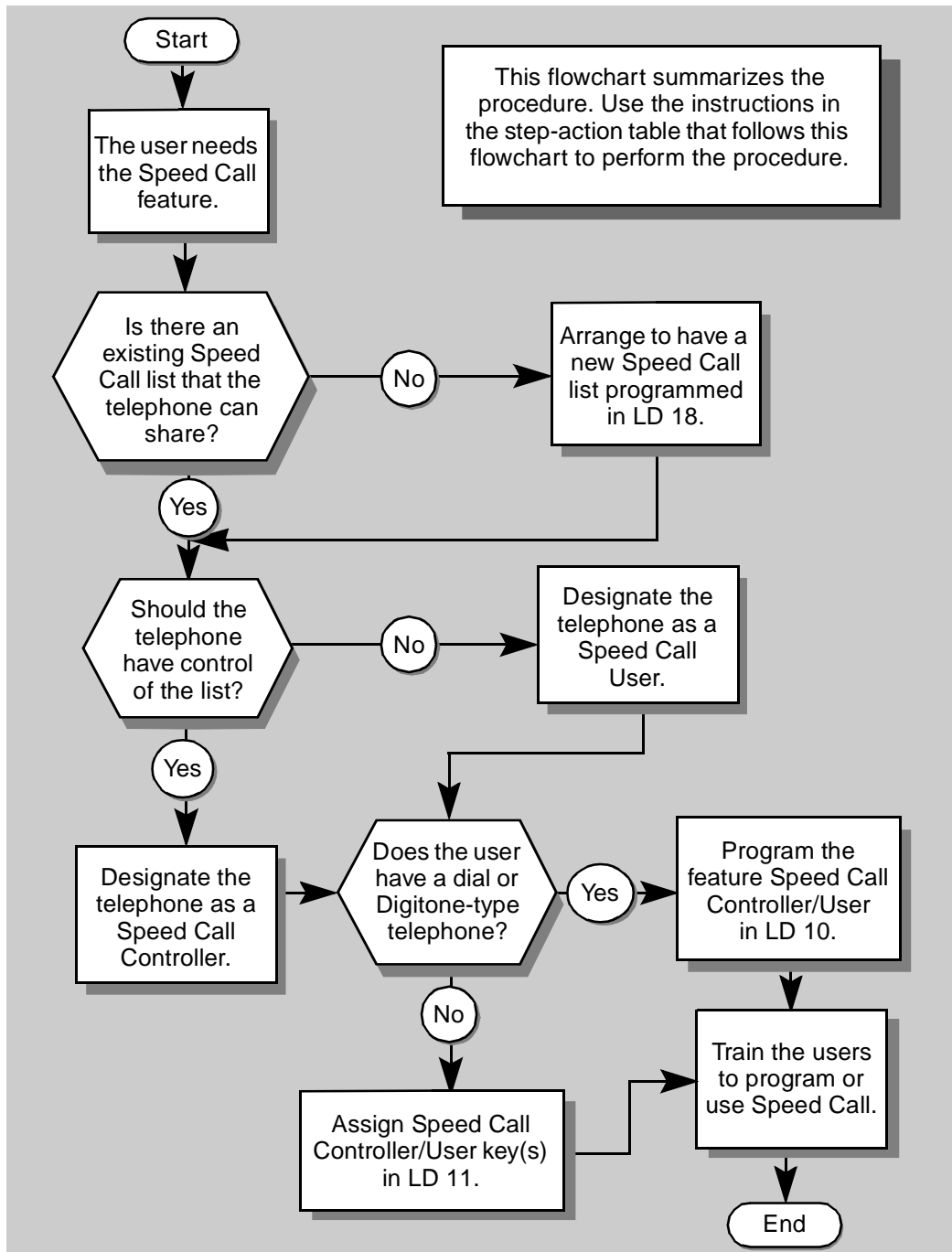
Basic	Optional	Preparation
✓		Decide if this user could share an existing list.
✓		If the user needs access to a new list, make sure the Speed Call list or System Speed Call list is already established. Find out the list number.
✓		Decide if this user will control the list or merely use it.
✓		Train the user.
✓		Determine the TN which is assigned to this telephone.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Speed Call.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Speed Call and System Speed Call



Speed Call and System Speed Call

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Speed Call feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION										
1	Choose the proper starting point from the choices below										
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>adding Speed Call to a new telephone</td> <td>step 3</td> </tr> <tr> <td>changing Speed Call on an existing telephone</td> <td>step 2</td> </tr> <tr> <td>removing Speed Call from an existing dial or Digitone- type telephone</td> <td>step 18</td> </tr> <tr> <td>removing Speed Call from an existing SL-1-type or digital telephone</td> <td>step 23</td> </tr> </tbody> </table>	If	Do	adding Speed Call to a new telephone	step 3	changing Speed Call on an existing telephone	step 2	removing Speed Call from an existing dial or Digitone- type telephone	step 18	removing Speed Call from an existing SL-1-type or digital telephone	step 23
If	Do										
adding Speed Call to a new telephone	step 3										
changing Speed Call on an existing telephone	step 2										
removing Speed Call from an existing dial or Digitone- type telephone	step 18										
removing Speed Call from an existing SL-1-type or digital telephone	step 23										
— continued —											

Speed Call and System Speed Call

STEP	ACTION	
2	Choose the step for the type of change you are making.	
	If	Do
	changing the list number	step 3
	changing from a Controller to a User of the same list	step 18 for dial or Digitone-type step 23 for SL-1-type or digital
		WARNING: if this telephone is the only Controller for the list, and you change it to a User, you will have to use the TTY to make future changes to the Speed Call list – refer to step 12 for help.
	changing from a User to a Controller of the same list	step 18 for dial or Digitone-type step 23 for SL-1-type or digital
3	Choose the proper starting point from the choices below.	
	If	Do
	user can share an existing list	step 4
	user needs own list	step 9
4	Find out what list number the user will share.	
	If	Do
	you know the list number	step 11
	you know another telephone which uses the correct list	step 5
— continued —		

Speed Call and System Speed Call

STEP	ACTION
5	Print the information associated with the other telephone.
If	Do
you know the TN of the other telephone	step 8
you do not know the TN of the other telephone, you know only the prime DN of the other telephone	step 7
6	Print the DN Block of the other telephone
Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
> LD 22	
> LD 20 or	(Release 17 or later)
> LD 10 or > LD 11 or	
> LD 32	(Release 19 or later)
REQ PRT	Request a printout
TYPE DNB	DN Block
DN X . . X	Input the DN of the other telephone
You get a printout of the TN of the other telephone.	
Do step 7.	
— continued —	

Speed Call and System Speed Call

STEP	ACTION	
7	Print the TN block of the other telephone	
	Log in. For information on proper log in procedures, refer to <i>Basic programming instructions</i> in this book.	
	> LD 20	(pre-Release 19 software)
	> LD 10 or > LD 11 or > LD 20	(Release 19 or later software)
	REQ	PRT Request a printout
	TYPE	TNB Terminal Number Block
	TN	L S C U Input the Terminal Number assigned to the other telephone (L oop number, S helf number, C ard number, U nit number)
	Do step 8.	
8	Find the list number in the print out of the other telephone.	
	If	Do
	the other telephone is dial or Digitone-type	Look for FTR SCC, FTR SCU or FTR SSU — the number which follows these mnemonics is the list number you want.
	the other telephone is digital or SL-1-type	Look for a KEY number followed by SCC, SCU, SSC or SSU — the number which follows these mnemonics is the list number you want.
	Go to step 10.	
— continued —		

Speed Call and System Speed Call

STEP	ACTION	
9	Arrange to program a new Speed Call list.	
	If	Do
	you have access to LD 18	Program a new list. If you do not know the list number to assign, print the existing lists (LD 20). Refer to the <i>Software Input/Output Guide Book 1 of 2</i> , if you need help.
	you do not have access to LD 18	Ask your system maintainer to program a new list and tell you what number they assigned to the new list. Update your records.
10	Find out if the user is to be a Controller or a User of the list.	
	If	Do
	Controller	step 11
	User	step 14
		WARNING: if this user has a unique list, do you intend to program Speed Call numbers for the user using the TTY or do you want to make the telephone a Controller instead?
11	Find out if there is already a Controller of the same list	
	If	Do
	you have ODAS (software package 20) and access to LD 81	step 12
	you do not have ODAS or access to LD 81	step 13
— continued —		

Speed Call and System Speed Call

STEP ACTION

12 Print all Controllers of Speed Call.

Log in, if you do not already have an active programming session.

> LD 81

REQ	LST	Request a list of telephones with the feature specified below
CUST	XX	Input your customer number
DATE	<cr>	carriage return
PAGE	<cr>	carriage return
DES	<cr>	carriage return
FEAT	SCC	feature specified is Speed Call Controller
	SSC	feature specified is System Speed Call Controller

You see a print out of the telephones which are Controllers of Speed Call or System Speed Call lists.

Look for any other telephone which already controls the same list.

If there is, decide if you want more than one Controller or decide which one should be the only Controller.

Go to step 14.

— continued —

Speed Call and System Speed Call

STEP	ACTION	
13	Print TN Blocks of all telephones.	
	> LD 20	(pre-Release 19 software)
	> LD 10 or > LD 11 or > LD 20	(Release 19 or later software)
	REQ PRT	Request a printout
	TYPE TNB	Terminal Number Block
	TN <cr>	carriage return
	You see a print out of the data associated with all telephones.	
	Look for any other telephone with FTR SCC or KEY SCC or SSC with the same list number as the one for the telephone you are programming.	If there is, decide if you want more than one Controller or which one should be the only Controller.
	Return to step 1 for help in making a change to the other telephone.	
14	Program the telephone.	
	If	Do
	new dial or Digitone-type telephone	step 15 for Controller step 16 for User
	changing a dial or Digitone-type telephone	A TNB printout of the telephone to find out the existing configuration, (refer to step 7 for help). Then go to step 17.
	new SL-1 or digital telephone	step 20 for Controller step 21 for User
	changing an SL-1 or digital telephone	A TNB printout of the telephone to find out the existing configuration, (refer to step 7 for help). Then go to step 22.
	— continued —	

Speed Call and System Speed Call

STEP ACTION

15 Program the Speed Call Controller feature on a new dial or Digitone-type telephone.

Log in, if you do not already have an active programming session.

> LD 10

REQ	NEW	Program a new telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.

carriage return until you see the prompt FTR

FTR	SCC YYY	Speed Call Controller of list number YYY
		YYY = (0–8190) Release 13 or later
		YYY = (0–254) prior to Release 13

Carriage return until you see one of the following messages:

U.data **P.data** small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 25.

— continued —

Speed Call and System Speed Call

STEP	ACTION	
16	Program the Speed Call User feature on a new dial or Digitone-type telephone.	
	Log in, if you do not already have an active programming session.	
	> LD 10	
	REQ	NEW Program a new telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt FTR	
	FTR	SCU YYYY Speed Call User of list number YYYY
		SSU BBBB System Speed Call User of list number BBBB
		YYYY = (0–8190) Release 13 or later
		YYYY = (0–254) prior to Release 13
		BBBB = (0 – 4095) Release 13 or later
	Carriage return until you see one of the following messages:	
	U.data	P.data small systems
	or	
	MEM AVAIL: (U/P) USED:TOT: large systems	
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 25.	
— continued —		

Speed Call and System Speed Call

STEP ACTION

17 Program a change to the Speed Call feature on a dial or Digitone-type telephone.

Log in, if you do not already have an active programming session.

> LD 10

REQ	CHG	Program a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone
ECHG		

If

Do

using "Easy Change"

Input YES and go to step 18.

not using "Easy Change"

Input NO or <cr> and go to step 19.

For more information on "Easy Change," go to the *Basic programming instructions* module of this book.

— continued —

Speed Call and System Speed Call

STEP	ACTION								
18	<p>Program an “Easy Change” to an existing dial or Digitone-type telephone.</p> <p>ITEM FTR</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td> <p>telephone is changing to a Controller</p> </td> <td> <p>Following FTR and a space, type SCC YYYY where:</p> <p>YYYY is the list number you saw in the TNB printout of this telephone.</p> <p>0–8190 (Release 13 and later)</p> <p>0–254 prior to Release 13.</p> </td> </tr> <tr> <td> <p>telephone is changing to a User</p> </td> <td> <p>Following FTR and a space, type SCU YYYY for Speed Call User or SSU BBBB for System Speed Call User where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p> </td> </tr> <tr> <td> <p>you are removing Speed Call from the telephone</p> </td> <td> <p>Following FTR and a space, type XSCU YYYY (Speed Call User) or XSSU BBBB (System Speed Call User), or XSCC YYYY (Speed Call Controller) where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p> </td> </tr> </tbody> </table>	If	Do	<p>telephone is changing to a Controller</p>	<p>Following FTR and a space, type SCC YYYY where:</p> <p>YYYY is the list number you saw in the TNB printout of this telephone.</p> <p>0–8190 (Release 13 and later)</p> <p>0–254 prior to Release 13.</p>	<p>telephone is changing to a User</p>	<p>Following FTR and a space, type SCU YYYY for Speed Call User or SSU BBBB for System Speed Call User where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p>	<p>you are removing Speed Call from the telephone</p>	<p>Following FTR and a space, type XSCU YYYY (Speed Call User) or XSSU BBBB (System Speed Call User), or XSCC YYYY (Speed Call Controller) where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p>
If	Do								
<p>telephone is changing to a Controller</p>	<p>Following FTR and a space, type SCC YYYY where:</p> <p>YYYY is the list number you saw in the TNB printout of this telephone.</p> <p>0–8190 (Release 13 and later)</p> <p>0–254 prior to Release 13.</p>								
<p>telephone is changing to a User</p>	<p>Following FTR and a space, type SCU YYYY for Speed Call User or SSU BBBB for System Speed Call User where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p>								
<p>you are removing Speed Call from the telephone</p>	<p>Following FTR and a space, type XSCU YYYY (Speed Call User) or XSSU BBBB (System Speed Call User), or XSCC YYYY (Speed Call Controller) where:</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13.</p> <p>BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.</p>								
— continued —									

Speed Call and System Speed Call

STEP	ACTION
18 continued ...	
Carriage return until you see one of the following messages:	
U.data	P.data small systems
	OR
MEM AVAIL: (U/P) USED:TOT: large systems	
When one of these messages appears, your change has been entered into the memory.	
Go to step 25.	
19	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.
Carriage return until you see the prompt FTR	
If	Do
.....
telephone is changing to a Controller	Type SCC YYYY where: YYYY is the list number you saw in the TNB printout of this telephone. 0–8190 (Release 13 and later) 0–254 prior to Release 13.
telephone is changing to a User	Type SCU YYYY for Speed Call User or SSU BBBB for System Speed Call User where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13. BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.
you are removing Speed Call from the telephone	Type XSCU YYYY (Speed Call User) or XSSU BBBB (System Speed Call User), or XSCC YYYY (Speed Call Controller) where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 prior to Release 13. BBBB = 0 – 4095 (Release 13 and later); 0–254 prior to Release 13.
— continued —	

Speed Call and System Speed Call

STEP	ACTION
21	<p>Program the Speed Call User feature on a new SL-1-type or digital telephone.</p> <p>Log in, if you do not already have an active programming session.</p> <p>> LD 11</p> <p>REQ NEW Program a new telephone</p> <p>TYPE Input correct type of SL-1 or digital telephone</p> <p>TN L S C U Input the Terminal Number of the telephone</p> <p>program the basics... Refer to Tasks 7–19 for information.</p> <p>carriage return until you see the prompt SSU</p> <p>SSU BBBB System Speed Call User (dial access) to list BBBB</p> <p>carriage return until you see the prompt KEY</p> <p>KEY ZZ SCU YYYY Speed Call User</p> <p> ZZ SSU BBBB System Speed Call User</p> <p> ZZ = KEY number</p> <p> YYYY represents list number</p> <p> (0–8190)Release 13 or later; (0–254) prior to Release 13</p> <p> BBBB represents list number</p> <p> (0–4095)Release 13 or later; (0–254) prior to Release 13</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 25.</p>
— continued —	

Speed Call and System Speed Call

STEP	ACTION	
22	Program a change to the Speed Call feature on an SL-1-type or digital telephone.	
	Log in, if you do not already have an active programming session.	
	> LD 11	
	REQ	CHG Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 23.
	not using "Easy Change"	Input NO or <cr> and go to step 24.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
— continued —		


Speed Call and System Speed Call

STEP	ACTION								
23	<p>Program an “Easy Change” to an existing SL-1 -type or digital telephone.</p> <p>ITEM KEY</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td> <p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p> </td> <td> <p>Enter a space, and the KEY number. Type SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p> </td> </tr> <tr> <td> <p>telephone is changing to a Speed Call User or a System Speed Call User</p> </td> <td> <p>Enter a space, and the KEY number. Type SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p> </td> </tr> <tr> <td> <p>you are removing Speed Call or System Speed Call from the telephone</p> </td> <td> <p>Enter a space, and the Key number. Type XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User or XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p> </td> </tr> </tbody> </table> <p>Note: If the telephone is changing to become a System Speed Call User, (dial access): after the ITEM prompt type SSU followed by the list number. If dial access is being removed, type XSSU BBBB, after the ITEM prompt. BBBB represents the list number.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory. Go to step 25.</p> <p style="text-align: center;">— continued —</p>	If	Do	<p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p>	<p>Enter a space, and the KEY number. Type SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>	<p>telephone is changing to a Speed Call User or a System Speed Call User</p>	<p>Enter a space, and the KEY number. Type SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>	<p>you are removing Speed Call or System Speed Call from the telephone</p>	<p>Enter a space, and the Key number. Type XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User or XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>
If	Do								
<p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p>	<p>Enter a space, and the KEY number. Type SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>								
<p>telephone is changing to a Speed Call User or a System Speed Call User</p>	<p>Enter a space, and the KEY number. Type SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>								
<p>you are removing Speed Call or System Speed Call from the telephone</p>	<p>Enter a space, and the Key number. Type XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User or XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0-4095 (Release 13 and later); 0–254 (prior to Release 13)</p>								


Speed Call and System Speed Call

STEP	ACTION								
24	<p>Program a change (not an “Easy Change”) to an existing SL-1 -type or digital telephone.</p> <p>Carriage return until you see the prompt KEY</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td> <p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p> </td> <td> <p>Type the KEY number, followed by a space and SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p> </td> </tr> <tr> <td> <p>telephone is changing to a Speed Call User or a System Speed Call User</p> </td> <td> <p>Type the KEY number, followed by a space and SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p> </td> </tr> <tr> <td> <p>you are removing Speed Call or System Speed Call from the telephone</p> </td> <td> <p>Type the KEY number, followed by a space and XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User.</p> <p>Type XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p> </td> </tr> </tbody> </table> <p>Note: If the telephone is changing to become a System Speed Call User, (dial access): after the SSU prompt type the list number. If dial access is being removed, type XBBBB, after the SSU prompt. BBBB represents the list number.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 25.</p>	If	Do	<p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p>	<p>Type the KEY number, followed by a space and SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>	<p>telephone is changing to a Speed Call User or a System Speed Call User</p>	<p>Type the KEY number, followed by a space and SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>	<p>you are removing Speed Call or System Speed Call from the telephone</p>	<p>Type the KEY number, followed by a space and XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User.</p> <p>Type XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>
If	Do								
<p>telephone is changing to a Speed Call Controller or a System Speed Call Controller</p>	<p>Type the KEY number, followed by a space and SCC YYYY or SSC BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>								
<p>telephone is changing to a Speed Call User or a System Speed Call User</p>	<p>Type the KEY number, followed by a space and SCU YYYY or SSU BBBB where: YYYY or BBBB is the list number you saw in the TNB printout of this telephone.</p> <p>YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>								
<p>you are removing Speed Call or System Speed Call from the telephone</p>	<p>Type the KEY number, followed by a space and XSCU YYYY or XSSU BBBB, if the telephone was programmed as a User.</p> <p>Type XSCC YYYY or XSSC BBBB, if the telephone was programmed as a Controller</p> <p>YYYY or BBBB is the list number you saw in the TNB printout of this telephone. YYYY = 0–8190 (Release 13 and later); 0–254 (prior to Release 13). BBBB = 0–4095 (Release 13 and later); 0–254 (prior to Release 13).</p>								
— continued —									

Speed Call and System Speed Call

STEP	ACTION								
25	<p>Check that the programming which you have just done is correct.</p> <p>Refer to the <i>Using the feature</i> part of this module for instructions on the proper use of the feature.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature was added or changed and it works</td> <td>step 26</td> </tr> <tr> <td>feature has been removed correctly</td> <td>step 26</td> </tr> <tr> <td>feature was added or changed but it does not work properly</td> <td>step 14</td> </tr> </tbody> </table>	If	Do	feature was added or changed and it works	step 26	feature has been removed correctly	step 26	feature was added or changed but it does not work properly	step 14
If	Do								
feature was added or changed and it works	step 26								
feature has been removed correctly	step 26								
feature was added or changed but it does not work properly	step 14								
26	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 27</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 27		
If	Do								
you do not have access to LD 43	Contact your system supplier.								
you have access to LD 43	step 27								
27	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 2px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 features and services</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>								
— continued —									

Speed Call and System Speed Call

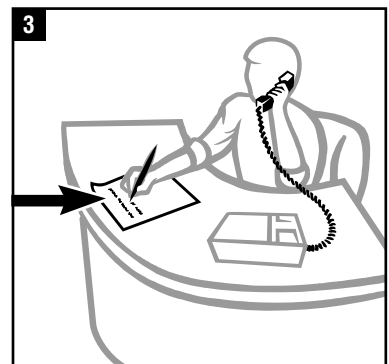
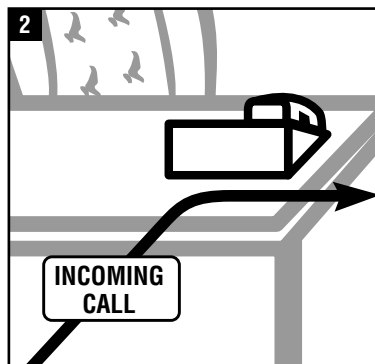
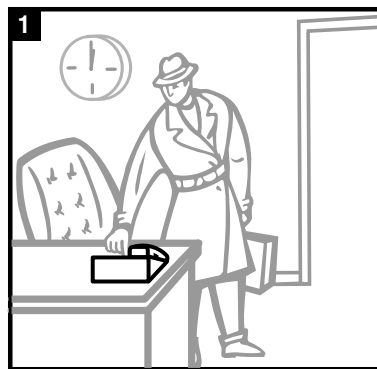
STEP	ACTION						
28	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 29</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 29
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 29						
29	<p>Terminate this overlay program.</p> <p>. ****</p>						
30	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>						
31	<p>You have completed the programming required to add or change the Speed Call feature on a telephone.</p>						
							

Call Forward All Calls

Purpose

The Call Forward All Calls feature allows users to divert incoming calls for a certain telephone number to another destination. The telephone does not ring because incoming calls are diverted. Here are some examples of situations when the feature is useful:

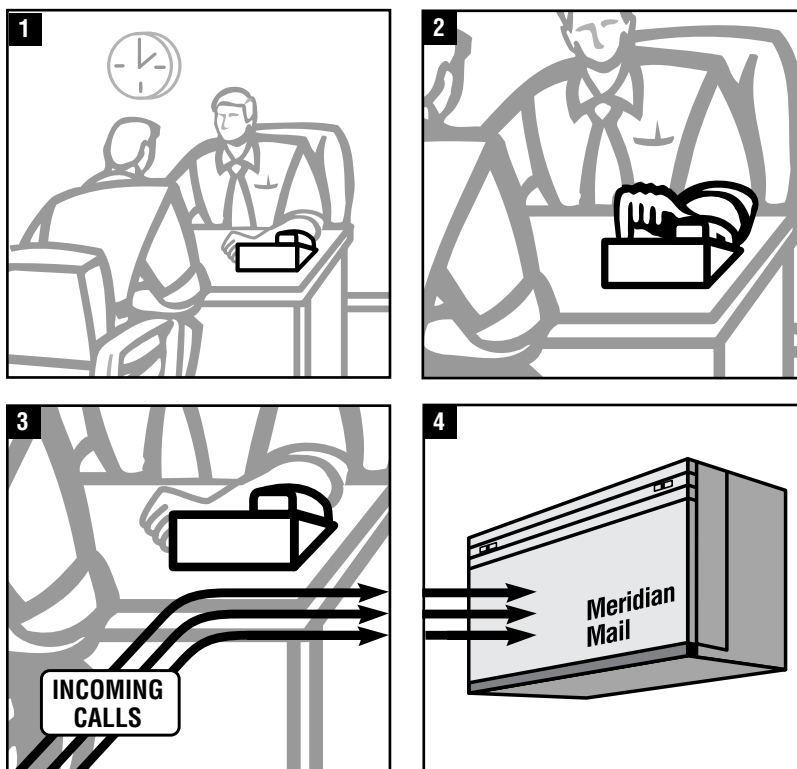
- ◆ When users leave their desks, they may wish to send incoming calls intended for their telephones to another person's telephone or to Voice Mail.



553-0048T CFAC

Call Forward All Calls

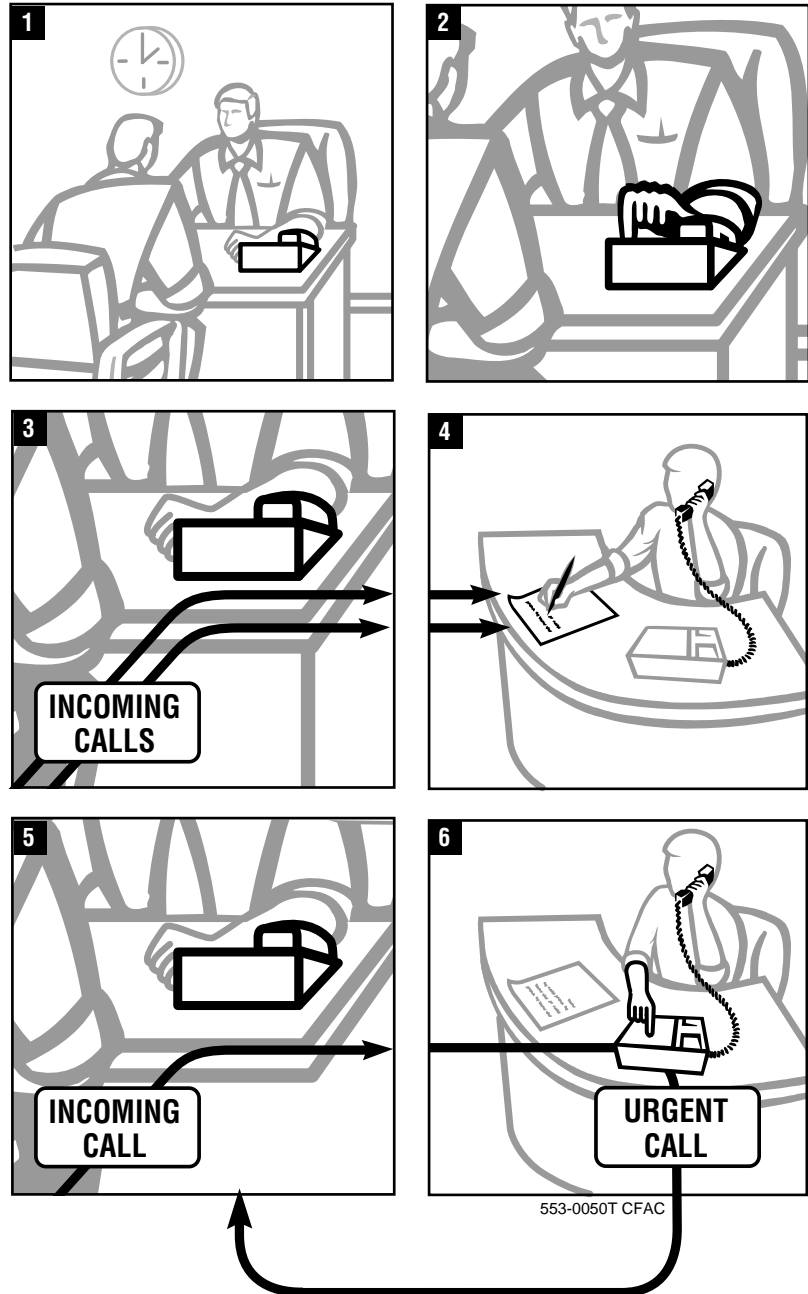
- ◆ When users do not wish to be disturbed while they are at their desks they can divert their calls to another person's telephone or to Voice Mail for a while.



553-0049T CFAC

Call Forward All Calls

- ◆ When users prefer to have someone else screen their calls and pass on only certain calls to them, they can activate the feature and keep it active all the time.



Call Forward All Calls

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses Call Forward All Calls
- ◆ what you need to know to manage interactions with other features



The Call Forward No Answer feature is often confused with the Call Forward All Calls feature. For further information, refer to Task 37, *Call Forward No Answer*.

Setting up the feature

Call Forward All Calls comes with the communication system, but the telephones are not programmed to use the call-forward capability. You select the telephones that are to have Call Forward All Calls, then you use the procedure in this module to program each one.

Assign Call Forward All Calls to a regular telephone as a feature that the user accesses by dialing a feature code.

Assign Call Forward All Calls to an SL-1 or digital telephone as a feature that the user accesses by pressing a dedicated key.

The user enters the destination number to which calls are to be sent.



Call Forward All Calls must be carefully controlled. Refer to *Control tips* in this Task module.

Call Forward All Calls

Length of destination number

You program, for each telephone, the maximum number of digits there can be in a call-forward destination number. You can change the maximum later, if the user's needs change.

With software prior to Release 22, the entries you can program for the maximum length of a destination number are four, eight, twelve, sixteen, twenty, or twenty-three digits. With Release 22 software, you can program any number between 4 and 23. This is an especially useful enhancement for networks or systems with 5, 6 and 7 digit DNs. The programmer does not have to enter 8 as a maximum number of digits and thereby allow the user to forward calls to external numbers as well.

External or internal destination

The telephone number to which calls are being diverted can be an external one or an internal one. To divert calls to an external number, the trunk access code must be entered before the rest of the digits in the number. For example, if the trunk access code is 9, to forward calls to external number 81 33 985 7918 you enter 9 81 33 985 7918.

Use of Call Forward All Calls to external numbers must be carefully monitored and controlled if it is permitted at all. Refer to the *Control tips* in this Task module.

How many redirections?

Within one system there is no limit to the number of times a call can be redirected by Call Forward All Calls.

If the call is being redirected across an ISDN network, there is a counter which can be programmed to limit the number of redirections. For further information refer to the *Network Call Redirection* feature module in the *Networking* binder.

Can anyone ring the forwarded telephone?

You can ring a forwarded telephone only from the destination telephone; this is the only telephone that can override the call forwarding. It allows the forwarded telephone to be reached in an emergency, and it can be used as a way to have someone screen your calls (refer to the third example in the *Purpose* part of this module).

Call Forward All Calls

This capability is called *Secretarial Filtering*. This is a standard part of the Call Forward All Calls feature, and no specific programming steps are required to make it work.

There is a similar feature called Boss Secretary Filtering (FFCSF) provided by software package 198. For further information refer to the *X11 features and services*.

Using the feature

If you have been given the feature on your telephone, you can activate it and deactivate it when you choose. You must enter the call-forward destination telephone number.

When your telephone is forwarded, you can still make calls.

Turning the feature on and off

Turning the feature on involves two basic steps:

- ◆ putting the telephone in a Call Forward All Calls mode
- ◆ telling the system where to send calls (destination number)

If it is a dial or Digitone-type telephone, you dial a feature code. If it is an SL-1-type or a digital telephone, you press a feature key.

To tell the system where to forward calls, you enter the destination telephone number.

A dial or Digitone-type telephone user hangs up after this. A digital or SL-1-type telephone user presses the Call Forward key a second time. The indicator beside the key lights up.

Turning the feature off depends on the type of telephone:

- ◆ a dial or Digitone-type telephone user lifts the handset, dials the feature code and hangs up
- ◆ a digital or SL-1-type telephone user presses the Call Forward feature key when the indicator is steadily lit and the indicator is turned off

Refer to the telephone user guides or the *Software Feature Guide* for more information.

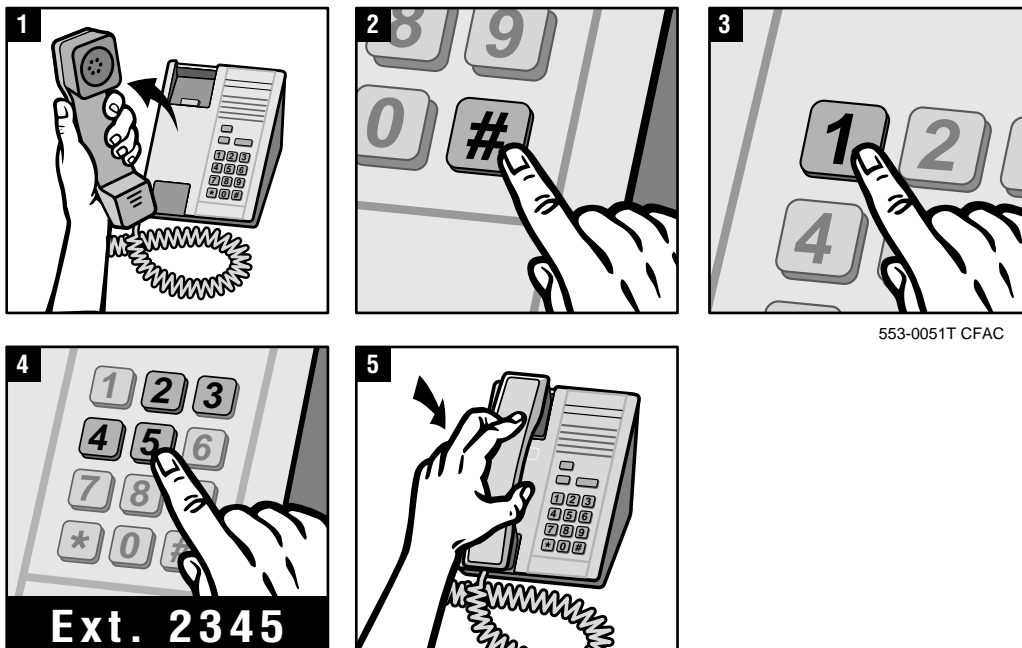
Call Forward All Calls

Using the feature (continued)

Digitone-type telephones

Activating Call Forward All Calls

The illustration below shows you how to call forward a Digitone-type telephone to DN 2345



Dial telephone users use the SPRE code plus 74 to activate and deactivate the feature.

FFC software package affects regular telephones

Systems with Flexible Feature Code software equipped automatically store the last call-forward destination number for all regular telephones. If you want to forward calls to the last destination again, dial the Call Forward feature code and hang up. Calls are automatically routed to that destination without you having to key in the destination number. If you do not have Flexible Feature Code software, you have to key in a destination number each time you turn on call forwarding.

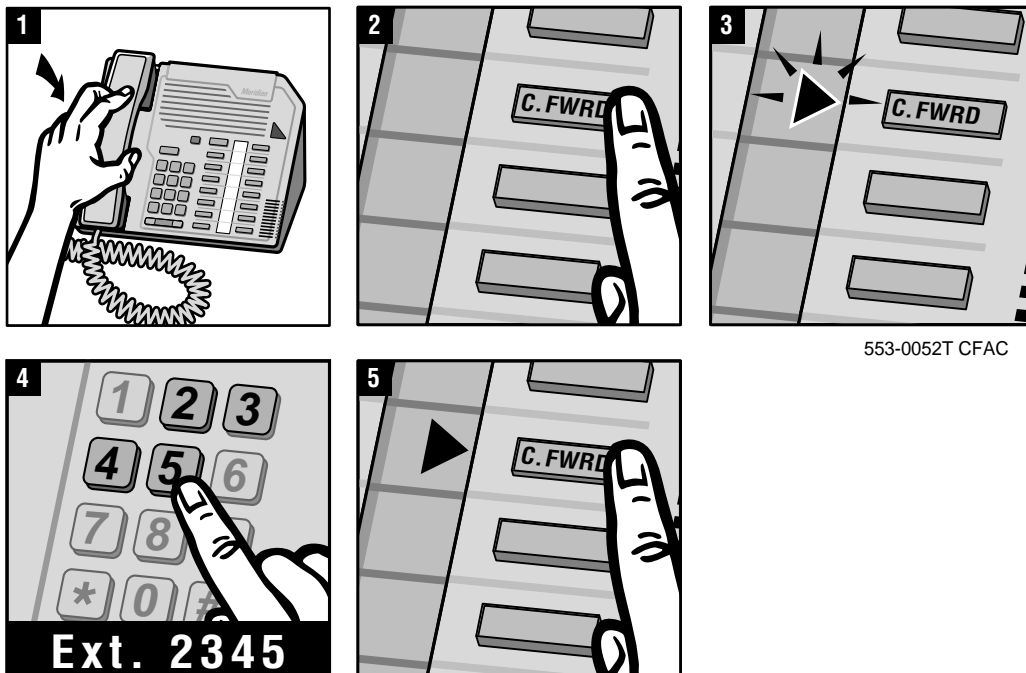
Call Forward All Calls

Using the feature (continued)

SL-1-type and digital telephones

Activating Call Forward All Calls

The illustration below shows you how to call forward a Digital telephone to DN 2345



An easy way to activate Call Forward All Calls

If you are using an SL-1-type or digital telephone, to forward calls to the last destination again, press the call-forward key twice. The last call forward destination number is automatically used. If the telephone has a display, the destination number appears on the display for you to verify it.

Call Forward All Calls

Interactions with other features

Call Forward All Calls works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

Private Line interacts with Call Forward All Calls

You can program an individual trunk as a Private Line. Incoming external calls can come into the system on a Private Line to a telephone without being handled by the attendant first. A Private Line terminates directly at a Directory Number (DN) which appears on one or more telephones. When the Private Line is used for an outgoing external call, no trunk-access code is required. Dial tone is supplied not from the Meridian 1 or SL-1, but from the Central Office (local exchange).

When making or receiving calls on a Private Line, the user can have access to other basic features, if access is set up when the system supplier programs the Private Line. The other features are:

- ◆ Call Transfer
- ◆ Conference
- ◆ Call Forward All Calls

This usage may be a matter of policy regarding tariff or feature-access privileges — check with the appropriate authority if you want information.

In the programming of the Private Line, if Call Modification Restriction is off, then calls on the Private Line can be modified (transferred, conferenced or forwarded). If Call Modification Restriction is on, calls cannot be modified.

Call Forward All Calls

Shared (Multiple Appearance) DNs interact with Call Forward All Calls

Call Forward All Calls diverts incoming calls to any DNs which are unique to that telephone, in other words DNs which are not shared.

If the same DN appears on more than one telephone, and more than one of the telephone users who share it activates Call Forward All Calls, the system must use a rule to determine where to divert calls:

Prior to Release 18:

If a DN is shared on more than one telephone, the system memory stores the Terminal Numbers (TNs) of these telephones in a list called the DN Block.

You can print the DN Block anytime you want. For instructions on how to do this, refer to the *Basic programming instructions* section in this book or the step-action table in this Task module.

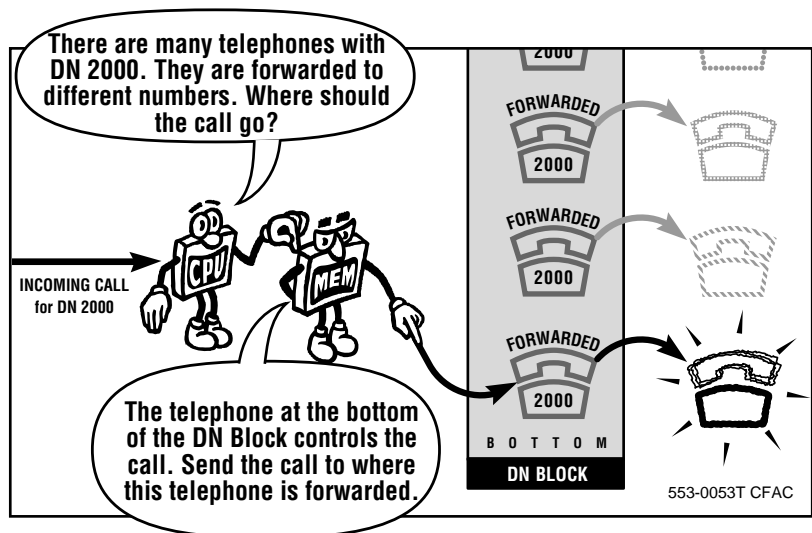
The sequence of the TNs in the list is re-arranged every time a programming change is made to one of the telephones.

Call Forward All Calls

To determine which telephone sharing the DN controls the Call Forward All Calls feature for all the other telephones, the system uses the following rules:

- ◆ When choosing the controlling TN, the system scans the DN Block from the bottom up.
- ◆ Call Forward All Calls is controlled by the telephone which:
 - has Call Forward All Calls active
 - has the shared DN appearing on key 0 (called a prime DN appearance)
 - is closest to the bottom of the DN Block

Calls to the other appearances of the same DN (prime or not) are diverted to the Call Forward destination entered by the controlling telephone user.



Call Forward All Calls

Multiple Appearance DNs and MARP interact with Call Forward All Calls

Release 18 and later

If a DN is shared on more than one telephone, you can designate one of the telephones as the *Multiple Appearance DN Redirection Prime Terminal Number (MARP TN)*. This MARP TN controls the redirection features Hunt, Call Forward No Answer, and Call Forward All Calls. Information on its effect on the Call Forward All Calls feature follows. For more in-depth information, refer to Task 40, *Multiple Appearance DN Redirection Prime*.

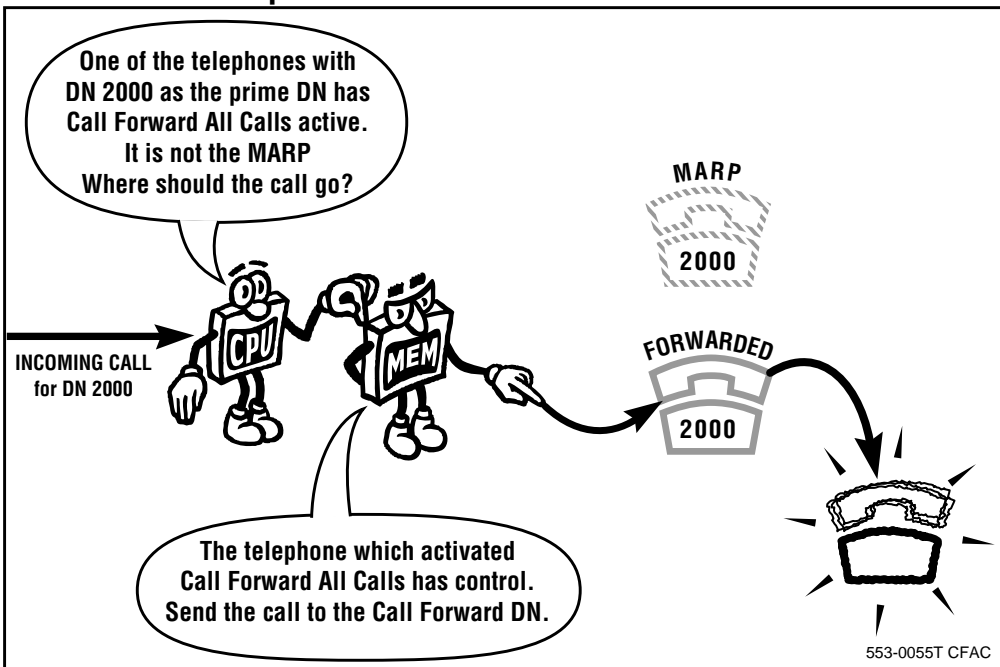
The examples below illustrate common effects the MARP capability has on the Call Forward All Calls feature.

If the shared DN (2000 in this example) is on key 0 on two telephones, and either telephone user activates the Call Forward All Calls feature, then calls are automatically forwarded for both telephones.

It is important to note that calls are forwarded, whether or not the telephone designated as the MARP TN is the one with the active Call Forward All Calls feature.



A non-MARP telephone has Call Forward All Calls active

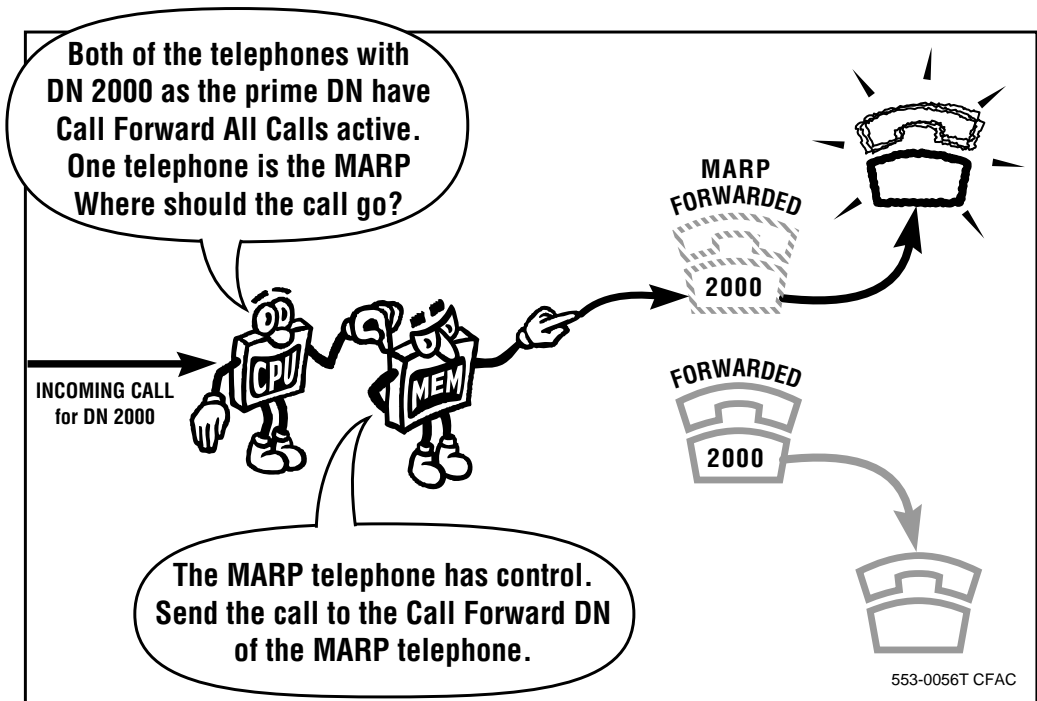


Call Forward All Calls

A non-MARP telephone and a MARP telephone have Call Forward All Calls active

If the same DN is prime on two telephones, and both users simultaneously activate Call Forward All Calls, incoming calls redirect to the Call Forward DN entered at the telephone designated as the MARP TN.

This illustrates how the MARP designation changes the way the Call Forward All Calls feature works with shared DNs after Release 18.



Call Forward All Calls

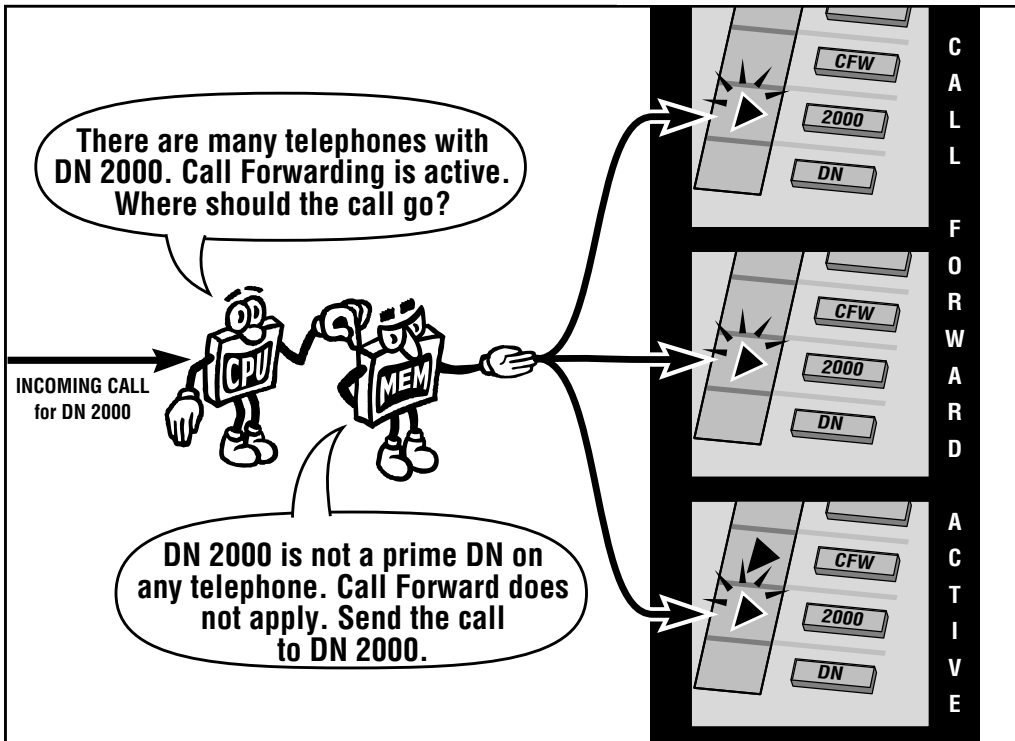
Secondary DNs interact with Call Forward All Calls Prior to Release 18

If the shared DN is assigned to keys other than key 0, everywhere it appears, users *cannot forward calls* for this DN.

If calls to the DN go unanswered, the feature Call Forward No Answer can operate (if programmed).

Release 18 and later

If a shared DN is on a key higher than key 0 everywhere it appears, users cannot use Call Forward All Calls to divert incoming calls to that DN, whether or not they use the MARP TN.



553-0054T CFAC

Call Forward All Calls

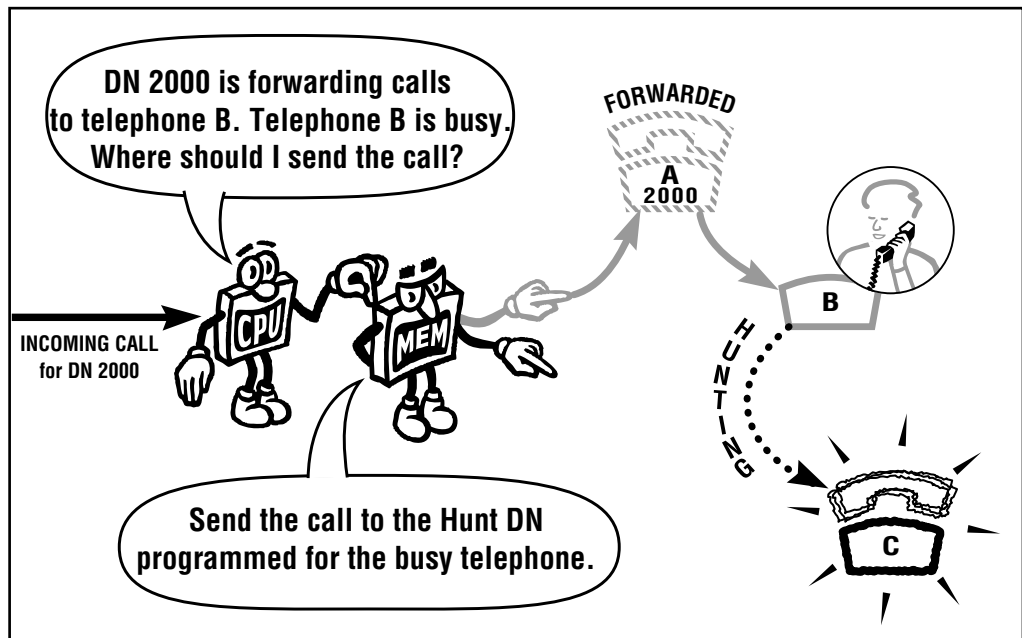
Hunt interacts with Call Forward All Calls

Hunt is the name for the feature which redirects calls to other destinations when DNs are busy and cannot receive calls. At times this feature can interact with Call Forward All Calls.

In the illustration which follows, telephone user “A” has forwarded calls to telephone user “B.” However, when telephone “B” is busy, it cannot receive forwarded calls. If telephone “B” is programmed to Hunt calls to another destination when it is busy, forwarded calls directed to it will Hunt as well.

Telephone user “C” usually only receives calls for telephone “B” when it is busy. In this case user “C” also receives calls for telephone user “A,” since “A” is forwarded to telephone B, which is busy.

What happens when the Call Forward DN is busy?



553-0057T CFAC

If you mention this interaction during training sessions with people who use these features, it improves their understanding of how the system routes calls to their telephone. This results in improved call answering.

Call Forward All Calls

Call Forward No Answer interacts with Call Forward All Calls

Call Forward No Answer is the name for the feature that redirects calls to other destinations when DNs are not answered. This feature can interact with Call Forward All Calls.

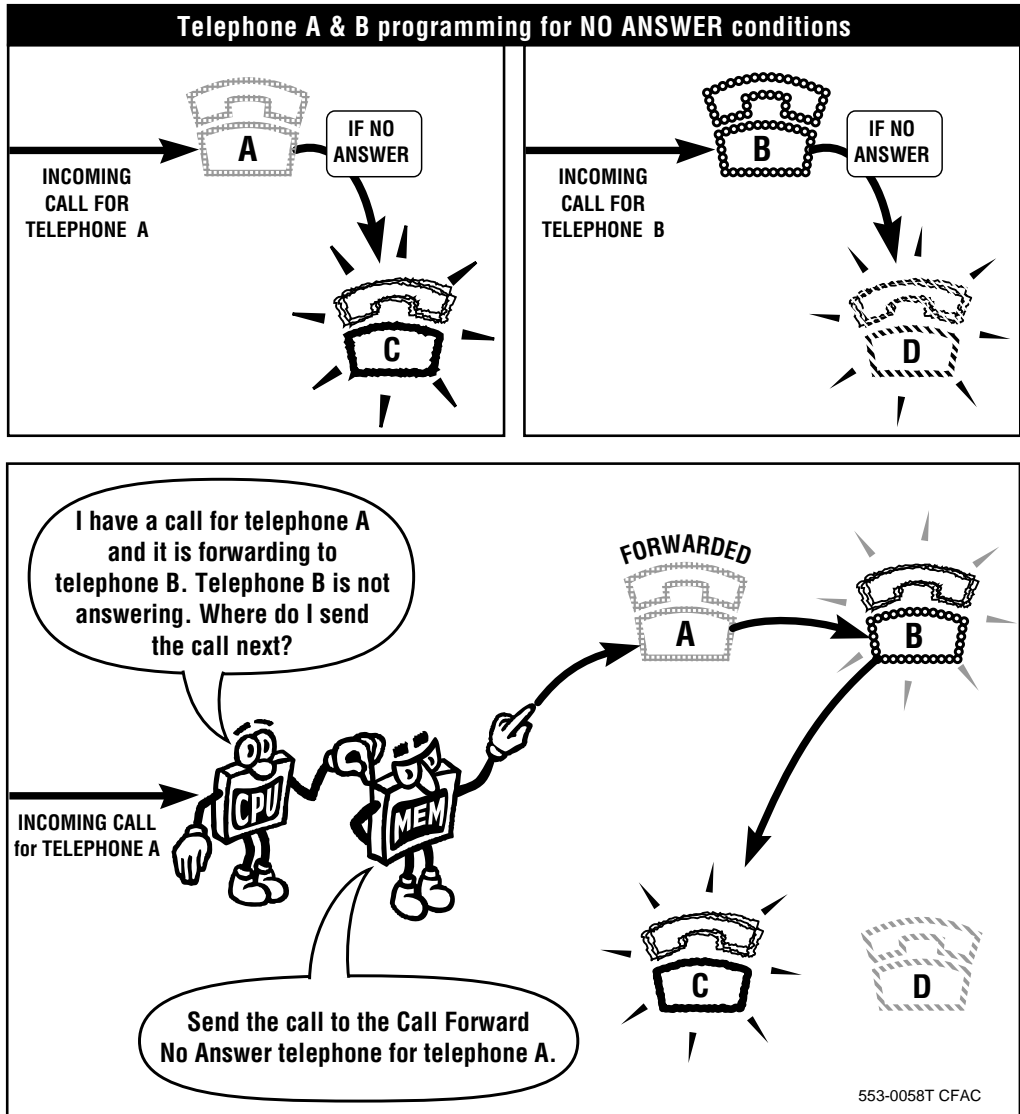
In the illustration which follows, telephone user “A” has forwarded calls to telephone user “B.” However, when telephone “B” is not answered, the system can redirect the call. Since the call was intended for telephone user “A,” the system redirects the call using the Call Forward No Answer instructions programmed for telephone “A,” even though it is telephone “B” which is going unanswered.

However, if telephone “B” is the Forward No Answer DN programmed for telephone “A,” then telephone “B” must continue to ring until one of the following things occurs:

- ◆ a timer called the *attendant recall timer* expires. This only applies if the call was originally extended to telephone “A” by the attendant.
- ◆ someone answers ringing telephone “B”
- ◆ the caller hangs up

Call Forward All Calls

What happens when the Call Forward DN is not answered?



Call Forward All Calls

In the previous illustration, users sitting near telephone “B” might be surprised when the unanswered call redirects differently from what they would expect for telephone “B.” The call goes instead to the destination DN programmed for telephone “A.” They do not realize when they hear telephone “B” ringing that the call was originally for telephone “A” which has forwarded the call to telephone “B.”

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems. Proper training can reduce the number of repair calls of this nature.

SYSLOAD interacts with Call Forward All Calls

For further information on SYSLOAD refer to the *You should know this* module in this book.

Table 176
Software requirements

Release required	Software package(s) required
15.58F to 20	131 – Supplementary Features (SUPP)
20	none

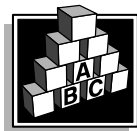
When the *Call Forward Save on SYSLOAD* capability is enabled, the Call Forward All Calls feature is automatically re-activated following a System Reload (SYSLOAD) for telephones which had the Call Forward All Calls feature activated at the time of the SYSLOAD.

Calls are forwarded to the Destination Number which was stored in memory for Call Forward All Calls for each telephone when the last data dump was performed. Your system supplier can program this option in the Configuration Record overlay program (LD 17).

If the technician is preparing to do a manual SYSLOAD of the system, it is a good idea for them to perform a data dump before the SYSLOAD to ensure the most recent Call Forward DN's for all telephones are stored on the disk. In this way, when Call Forward All Calls is re-activated for those telephones which were in the forward mode before the SYSLOAD, the correct destination number is used.

Call Forward All Calls

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Treat internal calls differently from external calls when users activate Call Forward All Calls

Without affecting external calls, you can specifically forward calls from internal users. This is possible if a telephone is assigned the Internal Call Forward feature.

Internal Call Forward

Table 177
Software requirements

Release required	Software package(s) required
19 and later	none

Operation of Internal Call Forward is by feature code on a regular telephone, or by dedicated key on a proprietary telephone (except Basic Rate Interface (BRI) telephones which cannot have the feature at this time).

On a telephone with both Internal Call Forward and Call Forward All Calls features, the user can:

- ◆ choose one call-forward destination number for Call Forward All Calls which handles calls coming in from an external source
- ◆ choose a different destination number for Internal Call Forward, which handles internal calls
- ◆ activate either feature, or both

Call Forward All Calls

If both features are active at the same time on one telephone, Call Forward All Calls is the one that operates. All calls (internal and external) are forwarded to the Call Forward All Calls destination number. For further information on Internal Call Forward refer to the *X11 features and services*.

Remind users that Call Forward All Calls is active

You can allow users to hear a tone or an announcement to remind them that Call Forward is active.

Message Intercept

Table 178
Software requirements

Release required	Software package(s) required
15.58F and later	163 – Message Intercept (MINT)
	125 – Flexible Tones and Cadences (FTC)

If the telephone has Message Intercept allowed in the Class of Service programming, a recorded announcement plays when the telephone has Call Forward active and the handset is lifted. The announcement plays until it times out or the user hangs up.

Call Forward Reminder Tone

Table 179
Software requirements

Release required	Software package(s) required
19 and later	none

Activating the tone on a customer-wide basis causes regular telephone users to hear special dial tone as a reminder when Call Forward All Calls is active. If audible message-waiting is also active, there is a different special dial tone to indicate there is a message waiting, in addition to the active Call Forward All Calls feature.

SL-1 and digital telephone users are reminded that Call Forward All Calls is active; the feature key lamp is lit while the feature is active.

Ask your system supplier to program LD 15 to enable this feature.

Call Forward All Calls

Users can be reached when they have Call Forward active

Certain users may require the capability to call a telephone even when it has Call Forward All Calls active. The Call Forward/Hunt Override feature provides this capability.

Call Forward/Hunt Override Via Flexible Feature Code (FFC)

Table 180
Software requirements

Release required	Software package(s) required
20 and later	139 – Flexible Feature Code (FFC)

By dialing the Flexible Feature Code (FFC) assigned for Call Forward/Hunt Override before calling the telephone, Call Forward is overridden. The caller hears ringing if the telephone is idle; busy tone if the telephone is busy.

The same feature can be used to override Hunt, Call Forward No Answer, ICP-Call Forward and Make Set Busy conditions on the called telephone.

A user can monitor the Call Forward status of other telephones

People who answer calls for other people and take messages often need to know if the person for whom they are answering is in a call-forward mode.

Call Forward All Calls

Call Forward and Busy Status Lamps (BFS)

Table 181
Software requirements

Release required	Software package(s) required
15.58F and later	131 – Supplementary Features (SUPP)

BFS keys can be configured on the telephone of a person who answers calls for other people. The lamps associated with these keys can perform the following functions:

- ◆ monitor, activate, or deactivate Call Forward All Calls for another telephone
- ◆ override Call Forward All Calls of another telephone in order to call it
- ◆ monitor the busy or idle status of another telephone
- ◆ call the other telephone when the key is pressed

The number of BFS keys configured on a telephone is determined by the number of other telephones which are answered by that person.

The functionality of the keys is controlled by a setting in the Customer Data Block. Refer to the *X11 features and services* for further information.

Boss/Secretary Filtering Enhancement

Table 182
Software requirements

Release required	Software package(s) required
24	none

In X11 Release 24, more functionality is added to the BFS keys and the operation of the call screening capabilities.

Call Forward All Calls

The additions and changes are:

- ◆ the users activate screening by pressing the BFS key, not the Call Forward key
- ◆ the secretary does not have to use the Call Transfer key to transfer a call to the boss; the secretary can press the BFS key. The boss can also take the call by pressing the BFS key.
- ◆ the boss's telephone has information on the display about an incoming call when screening is active
- ◆ any secretary with a BFS key for the boss can alter the screening of calls for the boss, once screening is active. The secretary who has most recently pressed the boss's BFS key becomes the screener of the calls or the secretary who was screening the boss's calls can forward calls to another secretary. Displays of all parties involved indicate the origination of the call, whose call it is and who is screening the call.
- ◆ you can program the secretary's telephone to allow recall to the boss's telephone for times when calls are not answered at the secretary's telephone
- ◆ BFS key lamp states are programmable. There are four default conditions, however, you can change these states on a Customer Group basis.

Users can activate Call Forward from a remote location

You can allow users to activate, or deactivate, Call Forward All Calls for a telephone from a different telephone.

Remote Call Forward

Table 183
Software requirements

Release required	Software package(s) required
15 and later	none

For further information on the Station Control Password required for this feature, refer to the *X11 features and services*.

Call Forward All Calls

Call Forward, Remote (Attendant and Network Wide)

Table 184
Software requirements

Release required	Software package(s) required
20 and later	none

This feature allows the use of Remote Call Forward across an ISDN network and also from an attendant console. The implementation of this capability is beyond the scope of this book. Refer to the *XII features and services* for more information.

Users can deactivate Call Forward from the destination telephone

Call Forward Destination Deactivation

Table 185
Software requirements

Release required	Software package(s) required
22 and later	139 – Flexible Feature Codes

With the Call Forward Destination Deactivation feature, you can configure a Flexible Feature Code that allows users to deactivate the Call Forward All Calls feature from the call forward telephone.

The forwarded party or the call forwarded destination can deactivate the Call Forward All Calls.

The DN being used to deactivate must be the same as the Call Forward DN of the other telephone. The two telephones must be a part of the same Customer Group. No Station Control Password is required (as it is with Remote Call Forward). Internal Call Forward is not affected.

Call Forward All Calls

You can change the Call Forward number remotely

Set Based Administration Enhancements

If your system is equipped with this capability and you know the proper Flexible Feature Code and password, you can go to a telephone programmed for Administrator Access and program the Call Forward All Calls DN for any telephone in the customer group.

If users do not know the number of the voice mail DN and yet they forward to it by simply accepting the number that is stored in memory each time, you could program the voice mail DN into memory for them using Set Based Administration.

You can control the use of this capability by limiting the number of people who know the Flexible Feature Code and password.

Control tips



Preventing Reciprocal Call Forwarding

Two users can unwittingly forward their telephones to each other. To prevent this, you can enable, customer-wide, an option that alerts the user that the one telephone is already forwarded to the other. The reciprocal situation is not allowed to occur.

The option alerts the user as follows:

- ◆ users of regular telephones hear an overflow tone
- ◆ users of SL-1 and digital telephones see that the Call Forward lamp continues to flash instead of becoming steadily lit when the Call Forward key is pressed a second time. This indicates that the Call Forward All Calls feature did not become active.

Table 186
Software requirements

Release required	Software package(s) required
18.20H and later	131 – Supplementary Features (SUPP)

With Release 16, Reciprocal Call Forward was prevented by default. With Release 20, software package 131 is not a requirement.

Call Forward All Calls

Ask your system supplier to program LD15 to enable this option.

Call Forward All Calls Originating/Forwarding

In a call-forwarding situation, the forwarded telephone and the calling telephone could have different Access Restrictions. You can control, on a customer-wide basis, which of the two sets of restrictions applies to forwarded calls.

If the Call Forward feature attempts to connect a call which is not allowed because of the operating Access Restrictions, the incoming call is not forwarded.

Table 187
Software requirements

Release required	Software package(s) required
any	none

Ask your system supplier to program LD 15 to enable this option.

Call Forward All Calls

Call Forward All Calls to external numbers

You might find that a certain user is forwarding a telephone to a trunk-access code before going home at the end of the day. From home, the user is calling into that telephone (usually by dialing a Direct Inward Dialing (DID) number). Because Call Forward is active, the telephone redirects the call to the outgoing trunk group with the access code which was preprogrammed as the Call Forward Destination Number. From the home telephone, the user then continues to dial the rest of the call. At that point, they are using a trunk at the office for the call. If the call is a toll call, the business pays for the call, not the user at home.

The use of the Call Forward All Calls feature in this way is not permitted in some countries. You can control this capability using trunk supervision programming. Discuss this programming with your system supplier.

Table 188
Software requirements

Release required	Software package(s) required
13 and later	none

You can use Call Detail Records (CDR) to investigate whether people are call-forwarding telephones to external numbers, especially during off-hours.

When an incoming trunk call is call-forwarded to an outgoing trunk, three call records print out:

- ◆ two S-records with the same time-stamp print out when the call is forwarded
- ◆ one E-record prints out at the end of the call

The first “S” record shows the incoming trunk as the Originating TN and the forwarded telephone shows as the Destination TN. The second S-record shows the forwarded telephone as the Originating TN and the outgoing trunk shows as the Destination TN.

For more information on CDR, refer to the *Call Detail Records* module in this book.

Call Forward All Calls

Refer to the *Control tips* section of this module for information on features that prevent users from doing this.

Call Forward to Trunk Access Code Deny

On a customer-wide basis, you can prevent users from forwarding their telephones to trunk-access codes not followed by any other digits.

Table 189
Software requirements

Release required	Software package(s) required
Releases 9 and 11, and Release 12 and later	none

This feature does not prevent users from forwarding their telephones to trunk-access codes which are followed by other digits. If you want to prevent that, refer to the description of *Call Forward External* which follows.

Ask your system supplier to program LD 15 if you want to enable the denial of Call Forward to a Trunk access code.

Call Forward to Trunk Restriction

You can restrict users from activating Call Forward All Calls to particular trunk groups.

Table 190
Software requirements

Release required	Software package(s) required
10.10C and later	131 – Supplementary Features (SUPP)

Ask your supplier to enable this option. It is programmed in Route Data Block overlay programs (LD 16).

If Call Forward is allowed on a trunk group, you can configure CDR, in the same overlay, to show, in the printed call record, either the original internal calling DN or the forwarding DN.

Call Forward All Calls

Call Forward External

You can control whether a user can call-forward a telephone to:

- ◆ trunk access codes
- ◆ trunk access codes with other digits following
- ◆ BARS or NARS or CDP access codes (refer to the *Networking binder* for further information)
- ◆ non-message centre Automatic Call Distribution numbers (refer to the *Automatic Call Distribution Feature description* for further information)
- ◆ Call Park numbers (refer to *X11 features and services* for further information)
- ◆ Direct Inward System Access (DISA) numbers

Table 191
Software requirements

Release required	Software package(s) required
13 and later	none

You deny or allow this restriction in the Class of Service of each telephone.

Regular telephone users hear overflow tone when they try to forward to an external number and the attempt is denied. On SL-1 or digital telephones, the key lamp continues to flash when it is pressed a second time, indicating that the external number was not accepted.

Administration tips



- ◆ Train users to use the Call Forward All Calls feature properly. If they do, there will be far fewer of the complications which arise when the feature is misused.

Call Forward All Calls

Common problems associated with Call Forward All Calls:

1. User call-forwards to someone who is not available or willing to take calls.
2. User call-forwards to someone who has already call-forwarded to a third party.
3. User call-forwards to an incorrect or invalid destination due to a dialing error.
4. User forgets to cancel the Call Forward All Calls feature.
5. Two users call-forward their telephones to each other.
6. User activates Call Forward All Calls too often.

Suggested solutions

Problems one to four can be addressed in training sessions. Problem five can be prevented from happening with the implementation of software on your system, and problem six can be monitored using a maintenance routine.

Training

Promoting efficient use of the Call Forward All Calls feature can be done in training sessions. Your business benefits greatly and you will spend less time managing problems if you stress good user habits in training sessions.

- ◆ If users call-forward to a backup person, they should warn that person before forwarding the telephone.
- ◆ Users should test the call-forwarding by calling their own DN, especially on regular telephones, to verify that the feature has been activated properly and that calls are being forwarded to the expected destination number.
- ◆ When the feature is deactivated, the user should test this also.

The Call Forward Reminder Tone can be useful in preventing problem four.

Call Forward All Calls

Displays

People who answer calls for other people are greatly assisted by telephones that have alphanumeric displays. Telephones equipped with displays show the originally dialed DN for the call (and possibly the name of the caller or called party if Call Party Name Display software has been programmed). This helps the user to answer calls appropriately.

You can program the system so that the reason a call has been redirected is shown on the display of the answering telephone. These reason for redirection codes are defined on a customer-wide basis and can be a maximum of four characters. The default code for Call Forward All Calls is “F.”

You can configure the display to present the name of either the calling party or the called party. For further information on Call Party Name Display refer to the *X11 features and services*.

Preventing Reciprocal Call Forwarding

Problem five can be prevented with this software. If the destination DN is already forwarded to that user’s DN, the user receives an indication when attempting to call-forward.

Monitoring feature usage on your system

- ◆ When you print a telephone TN Block using overlay program 20 or 22, the print-out indicates that the feature is, or is not, configured for that telephone. This data also shows the last Call Forward destination programmed for that telephone.

This data does not indicate whether the telephone currently has the Call Forward All Calls feature activated.

- ◆ You can use overlay program (LD) 80 to monitor whether a user has activated the Call Forward feature. Talk to your system supplier about using the TRAC command in LD 80 if you want to monitor the use of Call Forward All Calls by certain users.
- ◆ You can use traffic-study data to show on an hourly or half-hourly basis how many times different feature keys on SL-1 and digital telephones were used. Refer to the *Traffic* section of this book for further information on traffic studies.

Call Forward All Calls

Training tips



- ◆ Avoid the problems often associated with Call Forward All Calls by doing proper training on an ongoing basis.
- ◆ Tell users with displays about the call-redirection information which is shown when they answer forwarded calls.
- ◆ Tell users about the monitoring you are planning to do with the CDR, traffic and maintenance routines.
- ◆ Tell users that the status of the telephones will be checked for overuse of the Call Forward All Calls feature, especially where Voice Mail takes messages, or if you are receiving complaints from external callers that certain people use this feature excessively.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic Call Forward All Calls feature and/or the optional related features associated with the basic feature.

Table 192
Checklist

Basic	Optional	Preparation
✓		Determine the maximum number of digits in the Call Forward number for this user.
✓		If the telephone shares a DN with another user, decide which telephone is the MARP.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
— continued —		

Call Forward All Calls

Table 192 (Continued)
Checklist

Basic	Optional	Preparation
	✓	Decide if forwarding to a trunk access code is to be denied for your customer group. [Call Forward to Trunk Access Code Deny]. Contact your system supplier.
	✓	Decide if forwarding to certain trunk groups should be prevented. [Call Forward to Trunk Restriction]. Contact your system supplier.
	✓	Decide which telephones should be prevented from forwarding calls to any external number. [Call Forward External].
	✓	If this user has a regular telephone, decide on the reminder tone capability. [Call Forward Reminder Tone]. Contact your system supplier.
	✓	Decide if it would be of benefit to implement a recorded announcement as a reminder when Call Forward All Calls is active. Contact your system supplier.
	✓	Decide if the user needs call forward override capability. [Call Forward / Hunt Override via Flexible Feature Code].
	✓	Decide if you wish to keep Call Forward All Calls active after a SYSLOAD. [Call Forward Save on SYSLOAD]. Contact your system supplier.
	✓	Decide if the call forward status of this telephone must be indicated on another telephone. [Call Forward and Busy Status Lamps].
	✓	Decide if this user may activate Call Forward All Calls remotely. [Remote Call Forward].
— continued —		

Call Forward All Calls

Table 192 (Continued)
Checklist

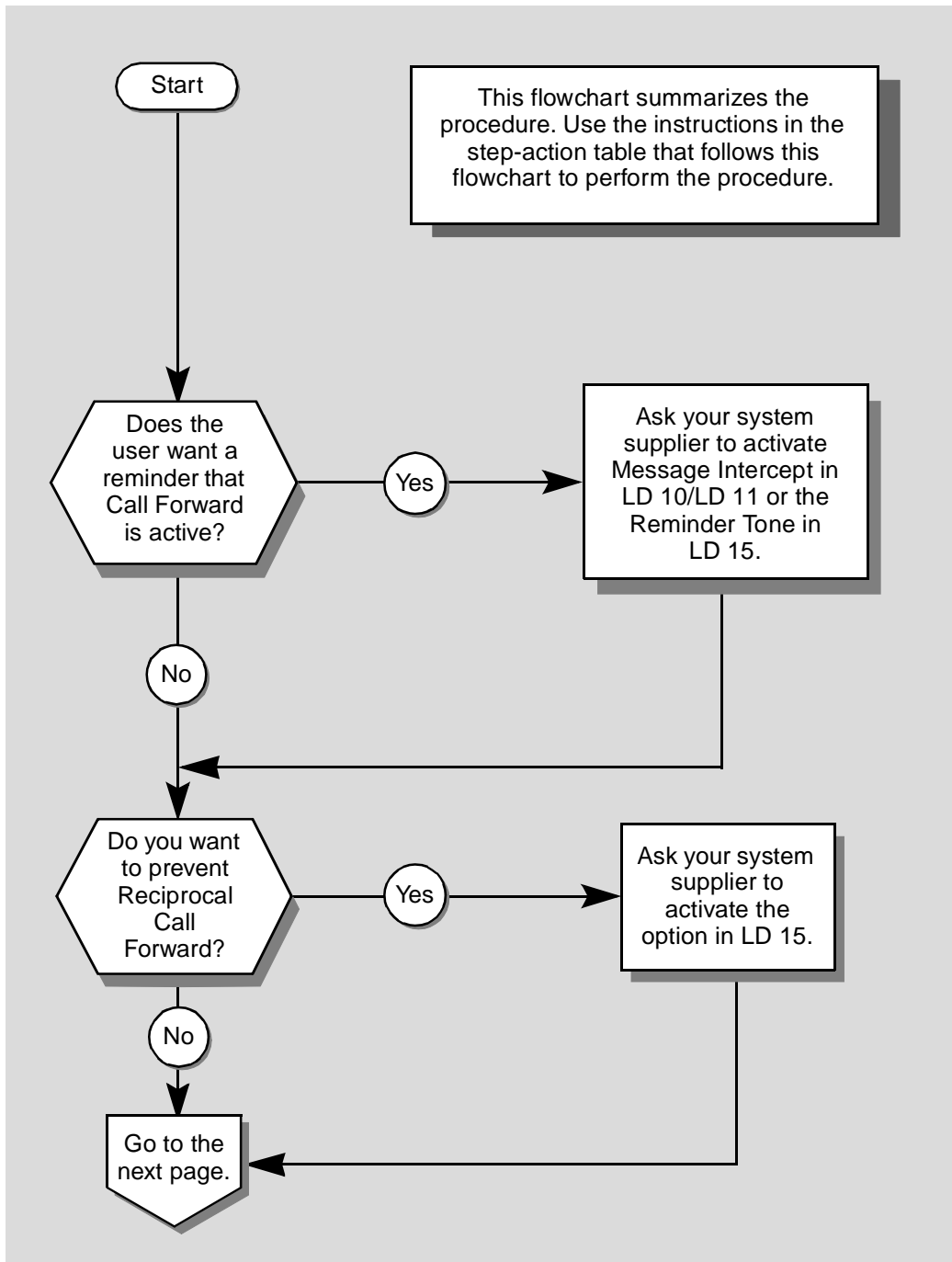
Basic	Optional	Preparation
	✓	Decide if you wish to prevent this user from call forwarding to a telephone which is forwarded to this telephone already. [<i>Preventing Reciprocal Call Forwarding</i>]. Contact your system supplier.
	✓	Decide whether the Class of Service of the originating party or that of the forwarding party should be in effect for a forwarded call. [<i>Call Forward All Calls Originating/Forwarding</i>]. Contact your system supplier.
	✓	Decide if you want this user to be able to deactivate the Call Forward All Calls feature from the call forward telephone. If you do want them to be able to do this, set up a Flexible Feature Code for this purpose. [<i>Call Forward Destination Deactivation</i>].

What's next?

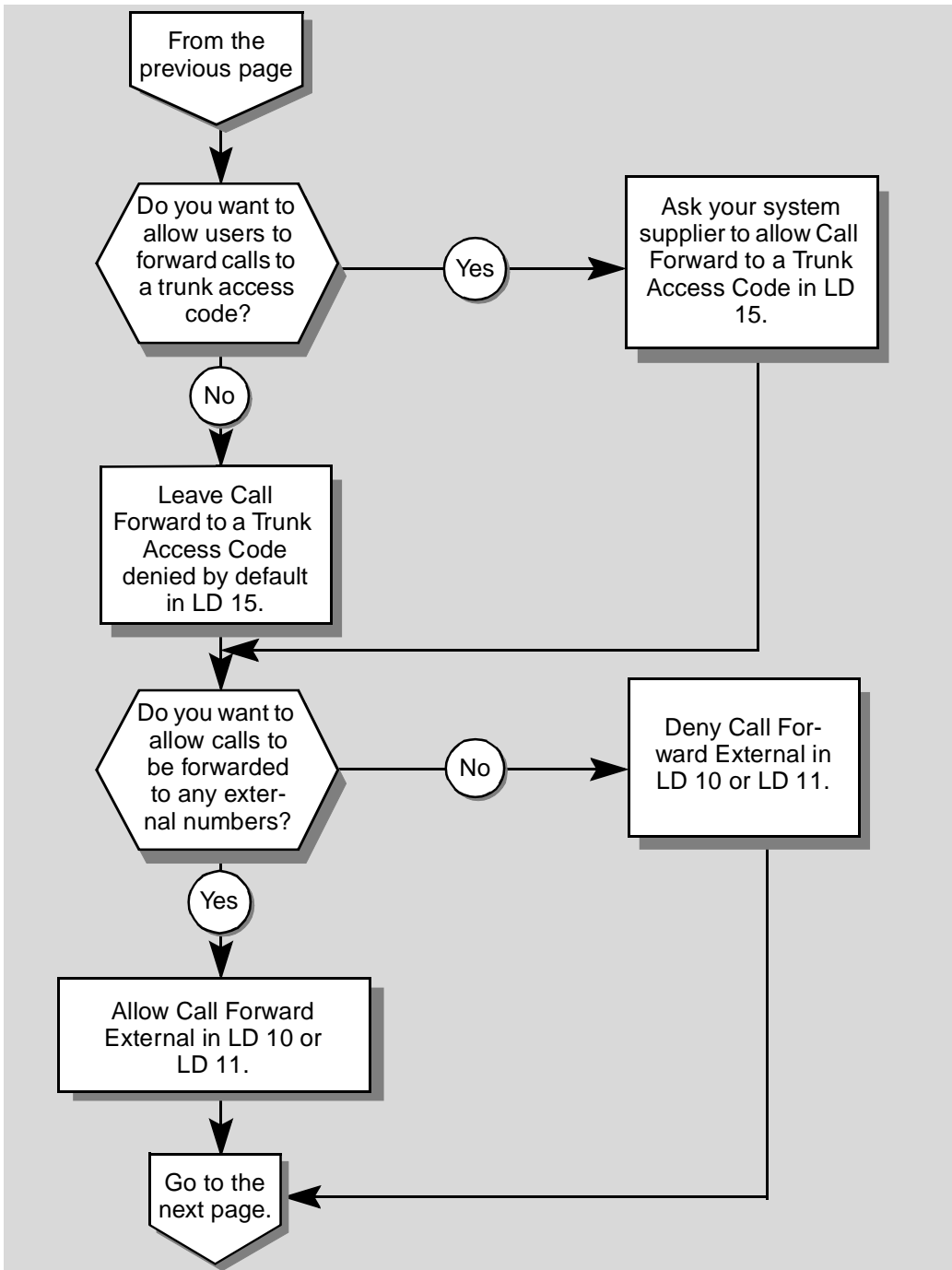
A flowchart follows which summarizes the implementation decisions and procedures for Call Forward All Calls.

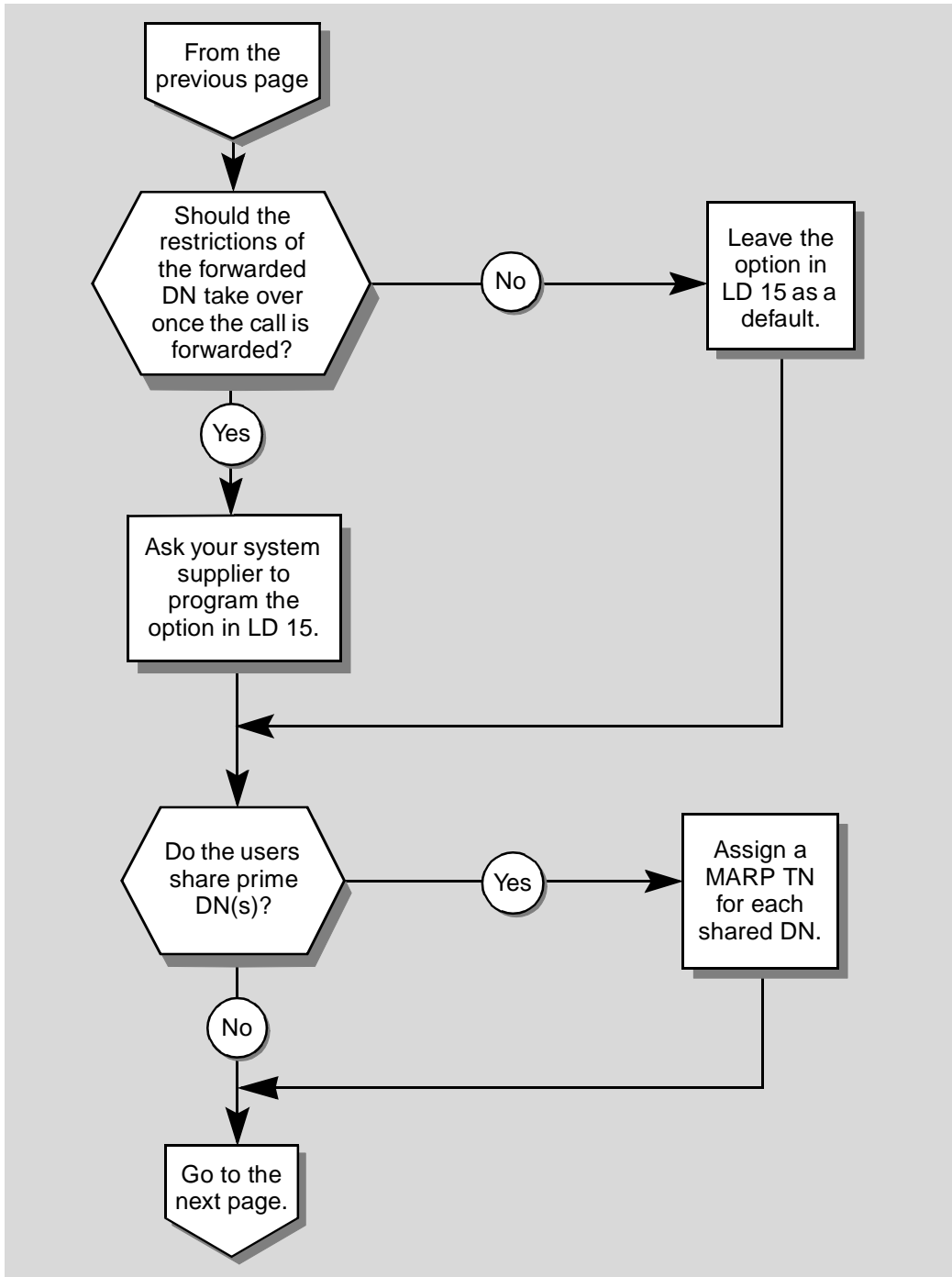
A step-action table follows the flowchart. Use it to do the programming steps necessary to implement this feature.

Call Forward All Calls

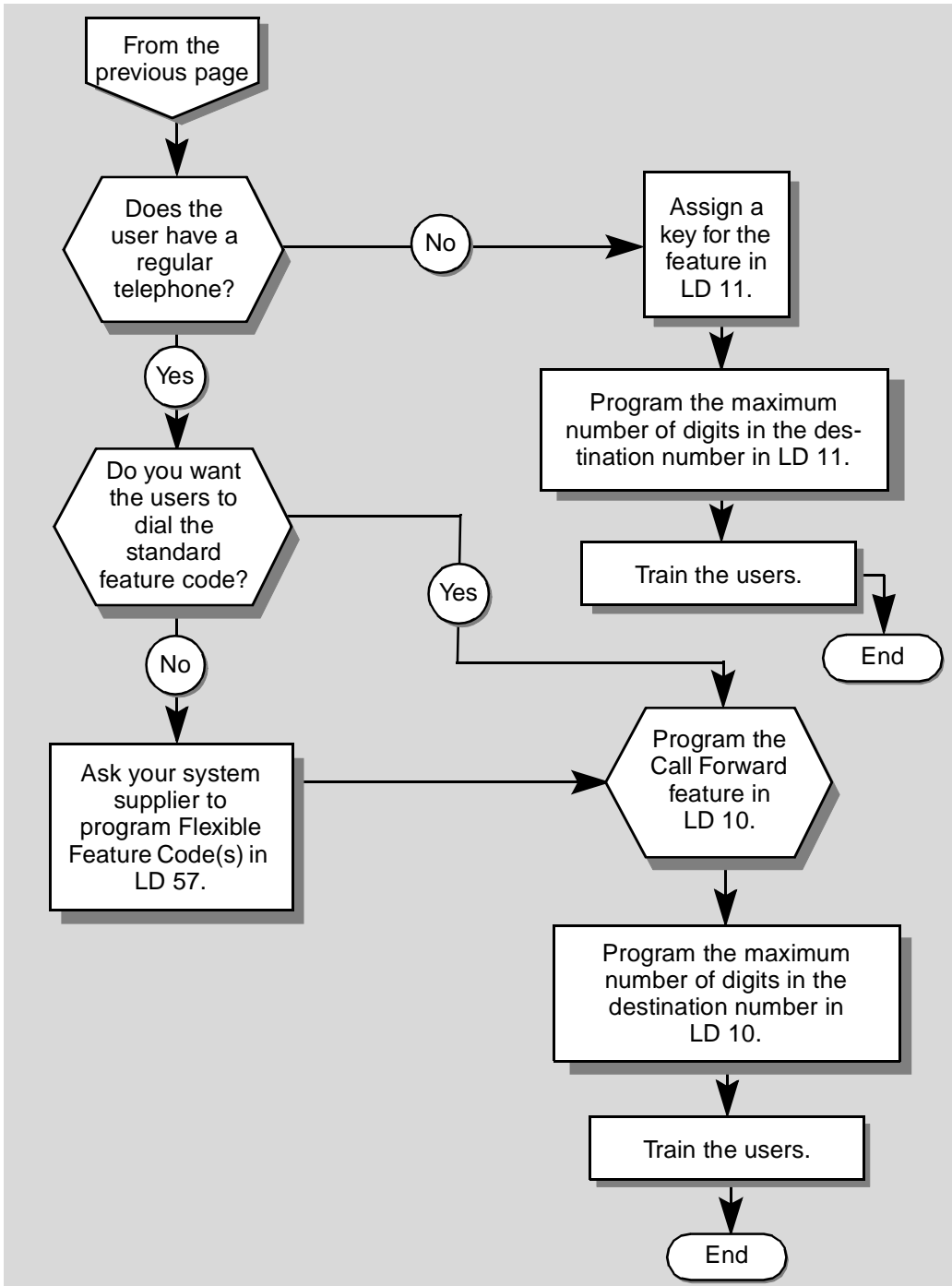


Call Forward All Calls



Call Forward All Calls

Call Forward All Calls



Call Forward All Calls

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Forward All Calls feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION	
1	Log in.
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.
2	Choose the starting point in this procedure that applies to the type of telephone you wish to program.
If	Do

new regular telephone	step 3
change existing regular telephone	step 4
new SL-1-type or digital telephone	step 7
change existing SL-1-type or digital telephone	step 8
— continued —	

Call Forward All Calls

STEP	ACTION	
3	Program a new regular telephone.	
	> LD 10	
	REQ	NEW
	TYPE	500 regular telephone (such as Unity series)
	TN	L S C U Input the Terminal Number to be assigned to the new telephone (Loop number, Shelf number, Card number, Unit number).
	program the basics...	Refer to Tasks 1–14 for information.
	Carriage return until you see the prompt FTR	
	FTR	CFW XX Assign the Call Forward All Calls feature. Set the maximum number of digits the user can enter for the Call Forward destination number. XX is the maximum number of digits the user can enter for the Call Forward destination number. Prior to Release 22, choose one of the following: 4, 8, 12, 16, 20, 23. The default is 16. As of Release 22, choose any number between 4 and 23. The default is 4.
	Carriage return until you see either of the following messages:	
	U.data	P.data small systems
	or	
	MEM AVAIL: (U/P)	USED:TOT: large systems
	Go to step 11.	
— continued —		

Call Forward All Calls

STEP	ACTION	
4	Program a change to an existing regular telephone.	
	<pre>> LD 10 REQ CHG TYPE 500 regular telephone (such as Unity series) TN L S C U Input the Terminal Number (TN) assigned to this telephone (Loop number, Shelf number, Card number, Unit number). ECHG</pre>	
	If	Do
	you want to use "Easy change"	Input YES and go to step 5.
	you do not want to use "Easy change"	Input NO and go to step 6.
	<p>For more information on "Easy change," go to the <i>Basic programming instructions</i> section of this book.</p>	
— continued —		

Call Forward All Calls

STEP	ACTION										
5	Program an "Easy Change" to an existing regular telephone.										
	<p>ITEM</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>assigning the feature and/ or setting the maximum number of digits in the destination</td> <td>F'TR CFW XX</td> </tr> <tr> <td>changing the maximum number of digits in the destination</td> <td>F'TR CFW XX</td> </tr> <tr> <td>removing the feature</td> <td>F'TR XCFW</td> </tr> </tbody> </table> <p>Where:</p> <p>XX is the maximum number of digits the user can enter for the Call Forward destination number. Prior to Release 22, choose one of the following: 4, 8, 12,16, 20, 23. The default is 16. As of Release 22, choose any number between 4 and 23. The default is 4.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 11.</p>	If	Do	assigning the feature and/ or setting the maximum number of digits in the destination	F'TR CFW XX	changing the maximum number of digits in the destination	F'TR CFW XX	removing the feature	F'TR XCFW
If	Do										
.....										
assigning the feature and/ or setting the maximum number of digits in the destination	F'TR CFW XX										
changing the maximum number of digits in the destination	F'TR CFW XX										
removing the feature	F'TR XCFW										
— continued —											

Call Forward All Calls

STEP ACTION

6 Program a change (not Easy Change) to an existing regular telephone.

Carriage return until you see the prompt FTR

If	Do
.....
assigning the feature and/ or setting the maximum number of digits in the destination	CFW XX

changing the maximum number of digits in the destination	CFW XX
--	--------

removing the feature	XCFW
----------------------	------

Where:

XX is the maximum number of digits the user can enter for the Call Forward destination number. Prior to Release 22, choose one of the following: 4, 8, 12, 16, 20, 23. The default is 16. As of Release 22, choose any number between 4 and 23. The default is 4.

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 11.

— continued —

Call Forward All Calls

STEP	ACTION
7	Program a new SL-1 or digital telephone.
	> LD 11
	REQ NEW
	TYPE Input the proper type of telephone.
	TN L S C U Input the Terminal Number (TN) to be assigned to the telephone (Loop number, Shelf number, Card number, Unit number).
	program the basics... Refer to Tasks 7–19 for information.
	Carriage return until you see the prompt KEY
	KEY Z CFW YY Input the key number on which you are assigning the Call Forward All Calls feature. Z refers to a key number between 0–69.
	Assign the Call Forward All Calls feature.
	YY represents the maximum number of digits the user can enter for Call Forward destination number.
	Prior to Release 22, choose one of the following: 4, 8, 12, 16, 20, 23. The default is 16.
	As of Release 22, choose any number between 4 and 23. The default is 4.
	Carriage return until you see one of the following messages:
	U.data P.data small systems
	or
	MEM AVAIL: (U/P) USED:TOT: large systems
	When one of these messages appears, your change has been entered into the memory.
	Go to step 11.
— continued —	

Call Forward All Calls

STEP	ACTION	
8	Program a change to an existing SL-1 or digital telephone.	
	> LD 11	
	REQ	CHG
	TYPE	Input the proper type of telephone.
	TN	L S C U Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number).
	ECHG	
	If	Do
	you want to use "Easy change"	Input YES and go to step 9.
	you do not want to use "Easy change"	Input NO and go to step 10.
	For more information on "Easy change", go to the <i>Basic programming instructions</i> section of this book.	
— continued —		

Call Forward All Calls

STEP	ACTION										
9	<p>Program an “Easy Change” to an existing SL-1 or digital telephone.</p> <p>ITEM</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>assigning the feature and/ or setting the maximum number of digits in the destination</td> <td>KEY Z CFW YY</td> </tr> <tr> <td>changing the maximum number of digits in the destination</td> <td>KEY Z CFW YY</td> </tr> <tr> <td>removing the feature</td> <td>KEY Z XCFW</td> </tr> </tbody> </table> <p>Where:</p> <p>Z is the key number on which you are assigning the feature</p> <p>YY is the maximum number of digits the user can enter for the Call Forward destination number. Prior to Release 22, choose one of the following: 4, 8, 12,16, 20, 23. The default is 16. As of Release 22, choose any number between 4 and 23. The default is 4.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 11.</p>	If	Do	assigning the feature and/ or setting the maximum number of digits in the destination	KEY Z CFW YY	changing the maximum number of digits in the destination	KEY Z CFW YY	removing the feature	KEY Z XCFW
If	Do										
.....										
assigning the feature and/ or setting the maximum number of digits in the destination	KEY Z CFW YY										
changing the maximum number of digits in the destination	KEY Z CFW YY										
removing the feature	KEY Z XCFW										
— continued —											

Call Forward All Calls

STEP ACTION

10 Program a change (not Easy Change) to an existing SL-1 or digital telephone.

Carriage return until you see the prompt KEY

If

Do

.....
 assigning the feature and/
 or setting the maximum
 number of digits in the
 destination

KEY Z CFW YY

changing the maximum
 number of digits in the
 destination

KEY Z CFW YY

removing the feature

KEY Z XCFW

Where:

Z is the key number on which you are assigning the feature

YY is the maximum number of digits the user can enter for the Call Forward destination number. Prior to Release 22, choose one of the following: 4, 8, 12, 16, 20, 23. The default is 16. As of Release 22, choose any number between 4 and 23. The default is 4.

Carriage return until you see one of the following messages:

U.data P.data small systems

or


MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.


Go to step 11.

— continued —

Call Forward All Calls

STEP	ACTION								
11	<p>Check that the feature works on the telephone which you have just programmed.</p> <p>Refer to the <i>Using the feature</i> part of this module for instructions on the proper use of the feature.</p> <table border="0"> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td colspan="2">.....</td> </tr> <tr> <td>feature works</td> <td>step 12</td> </tr> <tr> <td>feature does not work</td> <td>step 1</td> </tr> </table>	If	Do		feature works	step 12	feature does not work	step 1
If	Do								
.....									
feature works	step 12								
feature does not work	step 1								
12	<p>Arrange for a data dump to be performed.</p> <table border="0"> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td colspan="2">.....</td> </tr> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 13</td> </tr> </table>	If	Do		you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 13
If	Do								
.....									
you do not have access to LD 43	Contact your system supplier.								
you have access to LD 43	step 13								
13	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 2px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module of this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>								
— continued —									

Call Forward All Calls

STEP	ACTION						
14	<p>Verify that the data dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 15</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 15
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 15						
15	<p>Terminate this overlay program.</p> <p>. ****</p>						
16	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>						
17	<p>You have completed the programming required to add or change the Call Forward All Calls feature on a telephone.</p>						
							

1184 Redirecting calls

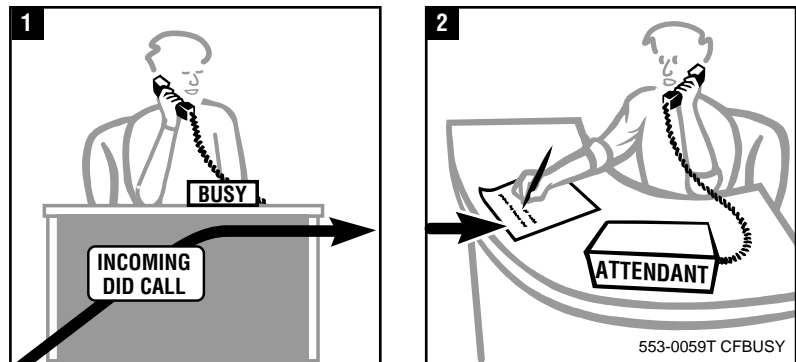
of 1776

Call Forward All Calls

Call Forward Busy

Purpose

Some systems are configured to have external calls come in directly to telephones and not to the attendant first. To do this they use Direct-Inward-Dialing (DID) trunks. If the Call Forward Busy feature is enabled in programming and the telephones which receive calls from the DID trunks are busy, this feature routes additional incoming calls to the attendant console(s).



Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Call Forward Busy

Setting up the feature

Call Forward Busy comes with the communication system, but the telephones do not come programmed to use the capability. You select the DID telephones that are to have Call Forward Busy, then you use the procedure in this module to program each one.

In the Class of Service programming of each telephone, there are two choices when setting up this feature: Call Forward Busy denied or allowed. Call Forward Busy is denied by default. If no other feature is enabled that affects calls when the DID telephone is busy, then if you deny the Call Forward Busy feature, callers hear a busy tone when they try to reach the busy DID telephone. If you allow the Call Forward Busy feature in the Class of Service programming, calls from DID trunks are routed to the attendant when the DID telephone is busy.



The attendant is the only destination to which this feature sends calls. If some other destination is preferable, use the Hunting feature instead.

This feature has no effect on telephones which do not receive incoming calls from DID trunks.

Using the feature

Any type of telephone

The information you need is in the preceding parts of this module.

Interactions with other features

Call Forward Busy works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems. Proper training can reduce the number of repair calls of this nature.

Call Forward Busy

Call Forward All Calls interacts with Call Forward Busy

If the DID telephone user activates the Call Forward All Calls feature, then all calls which are intended for that telephone are routed to the Call Forward destination programmed by the user. This is true whether the telephone is busy or not.

Hunting interacts with Call Forward Busy

The Hunting feature affects telephones when they are busy. Hunting routes calls that are intended for a busy telephone to a Directory Number (DN). There is further information in Task 38, *Hunting*.

If both Hunting and Call Forward Busy are allowed in the Class of Service of one telephone, then the Hunting feature takes priority. Calls are routed to the Hunt destination when the telephone is busy, not to the attendant.

Sometimes it is a good idea to allow both Hunting and Call Forward Busy for one telephone, so that if a call Hunts to another DN and that DN is also busy, but not programmed to Hunt, then the call does get routed somewhere — to the attendant.

Call Waiting interacts with Call Forward Busy

If a DID telephone has both Call Waiting and Call Forward Busy allowed in the Class of Service, when the telephone is busy the first additional incoming call goes into a Call Waiting mode. The DID telephone user hears two bursts of tone indicating that there is a call waiting to be answered. If the user continues to talk, and a second additional call comes in, it is routed to the attendant. These additional calls, which come in when there is already a waiting call, might get better service than the waiting call if the users are not trained well on the use of Call Waiting.

If the same telephone also has Hunting allowed, then the additional calls Hunt to the Hunt DN and do not go into a Call Waiting mode.

Call Forward Busy

Make Set Busy interacts with Call Forward Busy

If a DID telephone user activates the Make Set Busy feature, and an incoming call comes in for that telephone while the feature is active, it is routed to the attendant, if Call Forward Busy is allowed. If Hunting is also allowed, calls Hunt to the Hunt DN instead.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Console Incoming Call Indicator key

You can set up the attendant console(s) to have an Incoming Call Indicator (ICI) key which lights up when calls are routed to the console(s) from busy DID telephones by the Call Forward Busy feature.

This helps the attendant to greet the caller more appropriately by explaining to the caller that the DID telephone is busy.

Control tips



- ◆ You might want to monitor and control the use or over-use of the Make Set Busy feature if Call Forward Busy is also allowed. The attendant(s) can become very busy with redirected calls for users who are not really busy but merely using Make Set Busy frequently.

You might want to restrict DID telephones which have Call Forward Busy allowed from having the Make Set Busy feature.

- ◆ If you are using DID trunks to take some of the load from the attendant(s), a feature like Call Forward Busy can be counterproductive, if DID users are frequently busy or you do not have many attendants. You might want to monitor the increased traffic load on the attendant(s) if you implement the Call Forward Busy feature at several DID telephones.

Call Forward Busy

Administration tips



- ◆ Before you implement Call Forward Busy and route callers to the attendant(s), consider the impact of this on the callers who use the DID telephone numbers of your employees. Callers may have to wait in the attendant queue before being answered, or the attendant may not have information to help the caller that another employee might have.

Consider whether callers can be better served by being routed to other DNs rather than to the attendant(s). If so, implement the Hunting feature instead of Call Forward Busy. Refer to Task 38, *Hunting*.

Training tips



- ◆ Tell DID users that occasionally they might receive calls extended from the attendant after they have been busy on calls. It helps if they understand that some of their callers will be handled by an attendant during busy periods.
- ◆ Do what you can to improve communication between the attendant(s) and the DID users.
- ◆ Tell users who have both Call Waiting allowed and Call Forward Busy allowed that if they are busy and they hear two bursts of tone, this means there is a call waiting to be answered. Make users very comfortable with the procedure for answering waiting calls. These calls do not route to an attendant. The caller hears ringing and does not know that the user is busy.

Call Forward Busy

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 193
Checklist

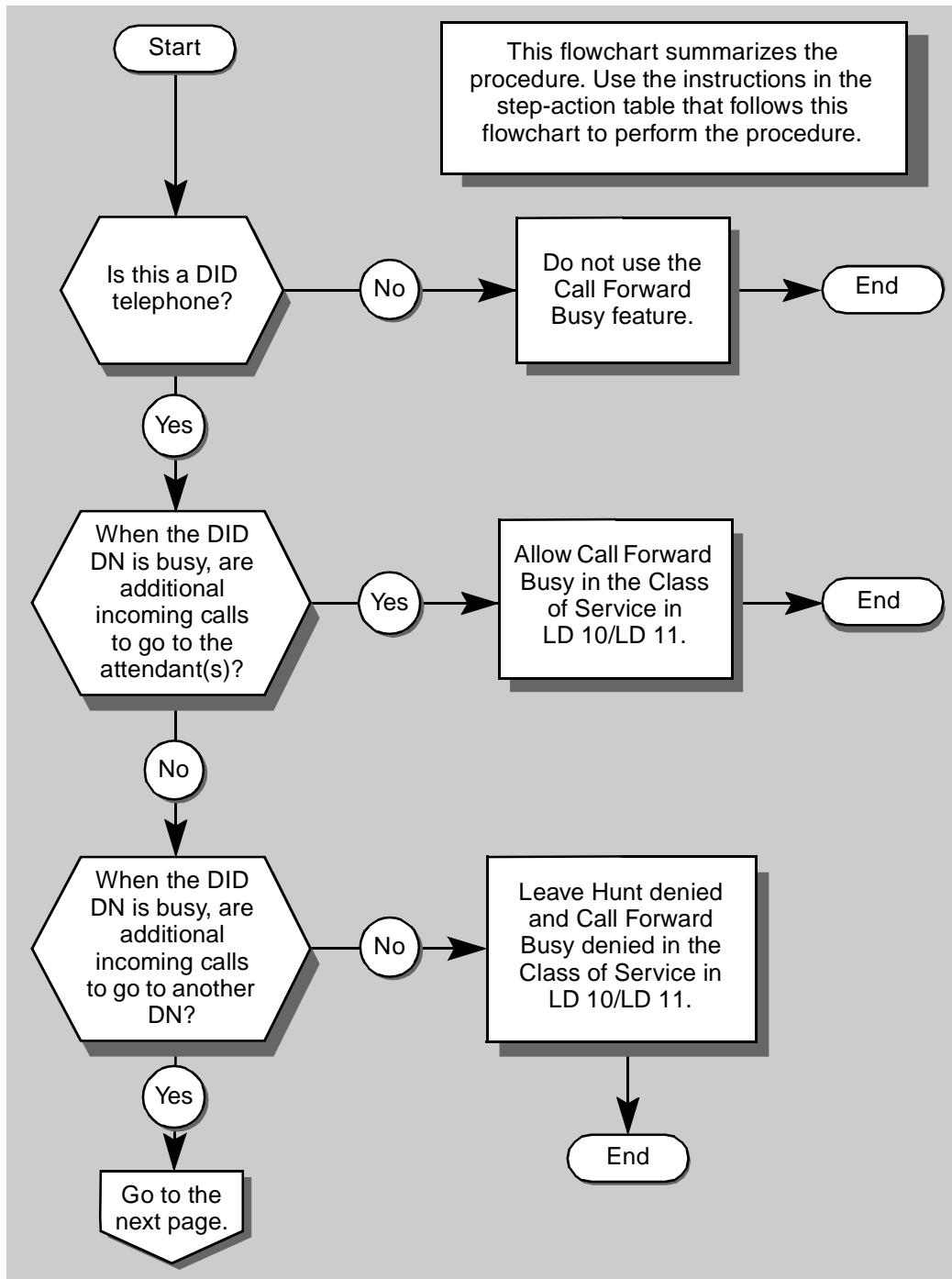
Basic	Optional	Preparation
✓		Decide if the attendant(s) on your system can handle rerouted calls from busy DID telephones.
✓		Decide if the DID telephone can use the attendant(s) as the best form of backup when they are busy.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
	✓	Decide whether the attendant(s) are to have an Incoming Call Indicator key on the console(s).

What's next?

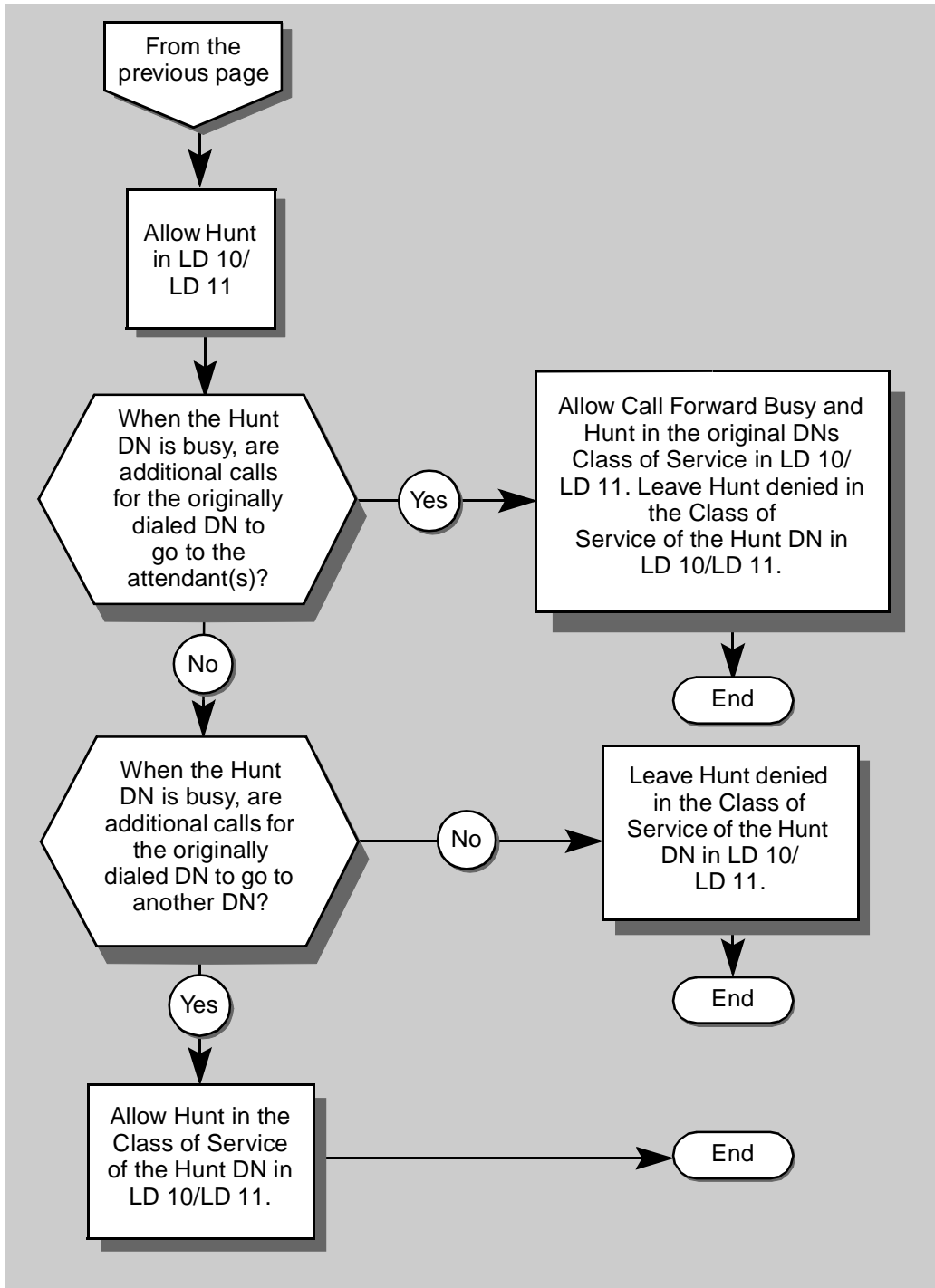
A flowchart follows which summarizes the implementation decisions and procedures for Call Forward Busy.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Call Forward Busy



Call Forward Busy



Call Forward Busy

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Forward Busy feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION

1 Log in.

For information on proper login procedures, refer to *Basic programming instructions* in this book.

2 Choose your starting point from the choices below.

If	Do
new dial or Digitone-type telephone	step 3
change to a dial or Digitone-type telephone	step 4
new digital or SL-1-type telephone	step 11
change to a digital or SL-1-type telephone	step 12

— continued —

Call Forward Busy

STEP	ACTION																							
3	Program a new dial or Digitone-type telephone.																							
	<p>> LD 10</p> <table> <tr> <td>REQ</td> <td>NEW</td> <td>Program a new telephone</td> </tr> <tr> <td>TYPE</td> <td>500</td> <td>Dial or Digitone-type telephone</td> </tr> <tr> <td>TN</td> <td>L S C U</td> <td>Input the Terminal Number of the telephone</td> </tr> </table> <p>program the basics... Refer to Tasks 1–6 for information.</p> <p>carriage return until you see the prompt CLS</p> <table> <tr> <td>CLS</td> <td>FBD or</td> <td></td> </tr> <tr> <td></td> <td><cr></td> <td>Call Forward Busy denied — default</td> </tr> <tr> <td></td> <td>FBA</td> <td>Call Forward Busy allowed</td> </tr> </table> <p>Carriage return until you see one of the following messages:</p> <table> <tr> <td>U.data</td> <td>P.data</td> <td>small systems</td> </tr> </table> <p>or</p> <table> <tr> <td>MEM AVAIL: (U/P) USED:TOT:</td> <td>large systems</td> </tr> </table> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 19.</p>	REQ	NEW	Program a new telephone	TYPE	500	Dial or Digitone-type telephone	TN	L S C U	Input the Terminal Number of the telephone	CLS	FBD or			<cr>	Call Forward Busy denied — default		FBA	Call Forward Busy allowed	U.data	P.data	small systems	MEM AVAIL: (U/P) USED:TOT:	large systems
REQ	NEW	Program a new telephone																						
TYPE	500	Dial or Digitone-type telephone																						
TN	L S C U	Input the Terminal Number of the telephone																						
CLS	FBD or																							
	<cr>	Call Forward Busy denied — default																						
	FBA	Call Forward Busy allowed																						
U.data	P.data	small systems																						
MEM AVAIL: (U/P) USED:TOT:	large systems																							
4	Print a TN Block of the existing telephone.																							
	Refer to <i>Basic programming instructions</i> for help.																							
5	Check to see if the Hunting feature is allowed or denied.																							
	<p>Look at the printout data for the existing telephone.</p> <p>Beside the CLS prompt look for one of these two mnemonics: HTA or HTD</p> <p>This information is needed later in this procedure.</p>																							
— continued —																								

Call Forward Busy

STEP	ACTION	
6	Program a change to the Call Forward Busy feature on a dial or Digitone-type telephone.	
	> LD 10	
	REQ	CHG Program a change to an existing telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 7.
	not using "Easy Change"	Input NO or <cr> and go to step 8.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
7	Program an "Easy Change" to an existing dial or Digitone-type telephone.	
	The item you are changing is the Class of Service (CLS) followed by a space and one of the choices below.	
	If	Do
	telephone is changing to Call Forward Busy allowed	Input FBA — go to step 10.
	telephone is changing to Call Forward Busy denied	Input FBD — go to step 9.
	step 7 continues.....	
	— continued —	

Call Forward Busy

STEP	ACTION								
7 continued ...									
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>								
8	<p>Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.</p> <p>Carriage return until you see the prompt CLS</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is changing to Call Forward Busy allowed</td> <td>Input FBA — go to step 10.</td> </tr> <tr> <td>telephone is changing to Call Forward Busy denied</td> <td>Input FBD — go to step 9.</td> </tr> </tbody> </table> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>	If	Do	telephone is changing to Call Forward Busy allowed	Input FBA — go to step 10.	telephone is changing to Call Forward Busy denied	Input FBD — go to step 9.
If	Do								
.....								
telephone is changing to Call Forward Busy allowed	Input FBA — go to step 10.								
telephone is changing to Call Forward Busy denied	Input FBD — go to step 9.								
— continued —									

Call Forward Busy

STEP	ACTION
9	Program correct interaction with the Hunting feature.
If	Do
callers are to hear busy tone when this telephone is busy	<p>Check the TNB printout you did earlier. Ensure Hunting is denied (CLS HTD) and then go to step 19.</p> <p>If Hunting is not denied, refer to Task 38, <i>Hunting</i> for information on programming a change to the Hunting feature.</p>
calls are to Hunt to another DN when the telephone is busy	Refer to Task 38, <i>Hunting</i> , for more information on the Hunting feature. Go to step 19.
10	Program correct interaction with the Hunting feature.
If	Do
calls are to go immediately to the attendant when this telephone is busy	<p>Check the TNB printout you did earlier. Ensure that Hunting is denied (CLS HTD) is programmed. Refer to Task 38, <i>Hunting</i>, for more information on the Hunting feature. Go to step 19.</p>
calls are to go to another DN when this telephone is busy and to the attendant if that telephone is also busy	<p>Check the TNB printout you did earlier. Ensure that Hunting is allowed (CLS HTA) is programmed. Print a TNB of the other telephone to ensure it is programmed as Hunting denied (CLS HTD).</p>
	<p>Refer to <i>Basic programming instructions</i> for help with the TNB. Refer to Task 38, <i>Hunting</i> for more information on the Hunting feature.</p>
	Go to step 19.
— continued —	

Call Forward Busy

STEP	ACTION	
11	Program a new digital or SL-1-type telephone.	
	> LD 11	
	REQ	NEW Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number of the telephone
	program the basics ...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	CLS	FBD or
		<cr> Call Forward Busy denied-default
		FBA Call Forward Busy allowed
	Carriage return until you see one of the following messages:	
	U.data	P.data small systems
	or	
	MEM AVAIL:	(U/P) USED:TOT: large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 19.	
12	Print a TN Block of the existing telephone.	
	Refer to <i>Basic programming instructions</i> for help.	
13	Check to see if the Hunting feature is allowed or denied.	
	Look at the printout data for the existing telephone.	
	Beside the CLS prompt look for one of these two mnemonics: HTA or HTD	
	This information is needed later in this procedure.	
— continued —		

Call Forward Busy

STEP	ACTION																				
14	<p>Program a change to the Call Forward Busy feature on a digital or SL-1-type telephone.</p> <pre>> LD 11</pre> <table> <tr> <td>REQ</td> <td>CHG</td> <td>Program a change to an existing telephone</td> </tr> <tr> <td>TYPE</td> <td></td> <td>Input correct type of SL-1 or digital telephone</td> </tr> <tr> <td>TN</td> <td>L S C U</td> <td>Input the Terminal Number of the telephone</td> </tr> <tr> <td>ECHG</td> <td></td> <td></td> </tr> </table> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>using "Easy Change"</td> <td>Input YES and go to step 15.</td> </tr> <tr> <td>not using "Easy Change"</td> <td>Input NO or <cr> and go to step 16.</td> </tr> </table> <p>For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.</p>	REQ	CHG	Program a change to an existing telephone	TYPE		Input correct type of SL-1 or digital telephone	TN	L S C U	Input the Terminal Number of the telephone	ECHG			If	Do	using "Easy Change"	Input YES and go to step 15.	not using "Easy Change"	Input NO or <cr> and go to step 16.
REQ	CHG	Program a change to an existing telephone																			
TYPE		Input correct type of SL-1 or digital telephone																			
TN	L S C U	Input the Terminal Number of the telephone																			
ECHG																					
If	Do																				
.....																				
using "Easy Change"	Input YES and go to step 15.																				
not using "Easy Change"	Input NO or <cr> and go to step 16.																				
15	<p>Program an "Easy Change" to an existing digital or SL-1-type telephone.</p> <p>The item you are changing is the Class of Service (CLS) followed by a space and one of the choices below.</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is changing to Call Forward Busy allowed</td> <td>Input FBA — go to step 18.</td> </tr> <tr> <td>telephone is changing to Call Forward Busy denied</td> <td>Input FBD — go to step 17.</td> </tr> </table> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>	If	Do	telephone is changing to Call Forward Busy allowed	Input FBA — go to step 18.	telephone is changing to Call Forward Busy denied	Input FBD — go to step 17.												
If	Do																				
.....																				
telephone is changing to Call Forward Busy allowed	Input FBA — go to step 18.																				
telephone is changing to Call Forward Busy denied	Input FBD — go to step 17.																				
— continued —																					


Call Forward Busy

STEP	ACTION								
16	<p>Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.</p> <p>Carriage return until you see the prompt CLS</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is changing to Call Forward Busy allowed</td> <td>Input FBA — go to step 18.</td> </tr> <tr> <td>telephone is changing to Call Forward Busy denied</td> <td>Input FBD — go to step 17.</td> </tr> </tbody> </table> <p>Carriage return until you see one of the following messages: U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>	If	Do	telephone is changing to Call Forward Busy allowed	Input FBA — go to step 18.	telephone is changing to Call Forward Busy denied	Input FBD — go to step 17.
If	Do								
.....								
telephone is changing to Call Forward Busy allowed	Input FBA — go to step 18.								
telephone is changing to Call Forward Busy denied	Input FBD — go to step 17.								
17	<p>Program correct interaction with the Hunting feature.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>callers are to hear busy tone when this telephone is busy</td> <td>Check the TNB printout you did earlier. Ensure Hunting is denied (CLS HTD) and then go to step 19. If Hunting is not denied, refer to Task 38, <i>Hunting</i> for information on programming a change to the Hunting feature.</td> </tr> <tr> <td>calls are to Hunt to another DN when the telephone is busy</td> <td>Refer to Task 38, <i>Hunting</i>, for more information on the Hunting feature. Go to step 19.</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	callers are to hear busy tone when this telephone is busy	Check the TNB printout you did earlier. Ensure Hunting is denied (CLS HTD) and then go to step 19. If Hunting is not denied, refer to Task 38, <i>Hunting</i> for information on programming a change to the Hunting feature.	calls are to Hunt to another DN when the telephone is busy	Refer to Task 38, <i>Hunting</i> , for more information on the Hunting feature. Go to step 19.
If	Do								
.....								
callers are to hear busy tone when this telephone is busy	Check the TNB printout you did earlier. Ensure Hunting is denied (CLS HTD) and then go to step 19. If Hunting is not denied, refer to Task 38, <i>Hunting</i> for information on programming a change to the Hunting feature.								
calls are to Hunt to another DN when the telephone is busy	Refer to Task 38, <i>Hunting</i> , for more information on the Hunting feature. Go to step 19.								

Call Forward Busy

STEP	ACTION
18	Program correct interaction with the Hunting feature.
If	Do
calls are to go immediately to the attendant when this telephone is busy	<p>Check the TNB printout you did earlier.</p> <p>Ensure that Hunting is denied (CLS HTD) is programmed.</p> <p>Refer to Task 38, <i>Hunting</i> for more information on the Hunting feature.</p> <p>Go to step 19.</p>
calls are to go to another DN when this telephone is busy and to the attendant if that telephone is also busy	<p>Check the TNB printout you did earlier.</p> <p>Ensure that Hunting is allowed (CLS HTA) is programmed.</p> <p>Print a TNB of the other telephone to ensure it is programmed as Hunting denied (CLS HTD).</p>
<p>Refer to <i>Basic programming instructions</i> for help with the TNB. Refer to Task 38, <i>Hunting</i>, for more information on the Hunting feature.</p> <p>Go to step 19.</p>	
19	Check that the programming which you have just done is correct.
Place DID calls to the telephone when it is busy and make sure the expected treatment happens.	
If	Do
feature works properly	step 20
feature does not work properly	step 1
— continued —	

Call Forward Busy

STEP	ACTION						
20	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 21</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 21
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 21						
21	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 2px solid black; padding: 10px; margin: 20px auto; width: fit-content;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
— continued —							

Call Forward Busy

STEP	ACTION						
22	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 23</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 23
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 23						
23	<p>Terminate this overlay program.</p> <p>. ****</p>						
24	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO <cr></p>						
25	<p>You have completed the programming required to add or change the Call Forward Busy feature on a telephone.</p>						



1204 Redirecting calls

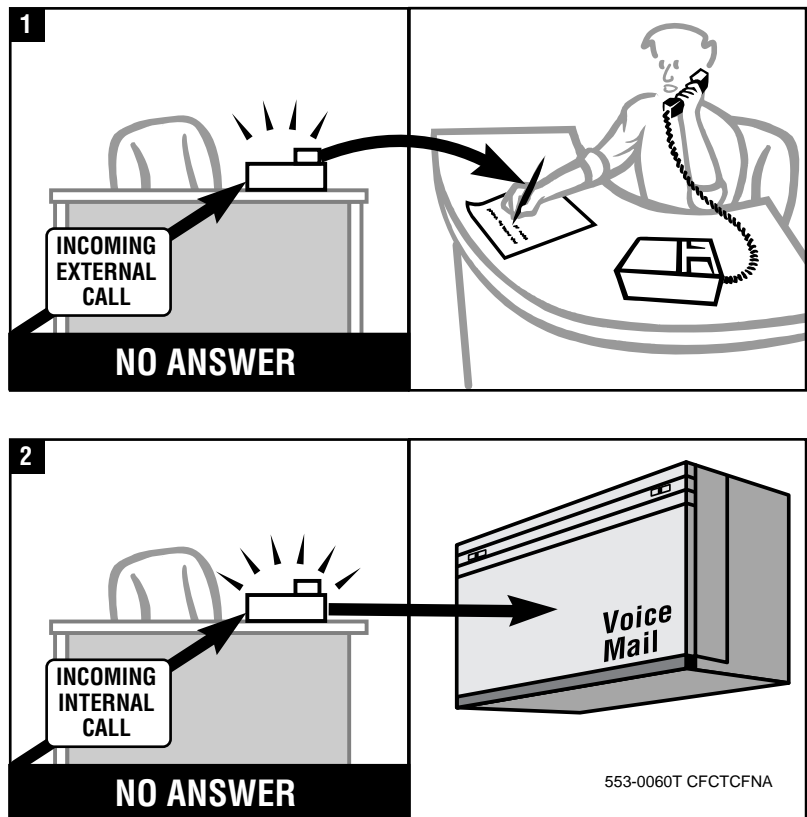
of 1776

Call Forward Busy

Call Forward by Call Type (Call Forward No Answer Option)

Purpose

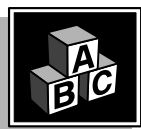
This enhancement to the Call Forward No Answer feature provides the capability for the system to send an internal call to a different Directory Number (DN) from the DN used for an external call when a telephone rings a specific number of times and is not answered.



Call Forward by Call Type (Call Forward No Answer Option)

A very common way to use this capability is shown in the illustration. When a telephone is not answered, internal calls can be redirected to Voice Mail messaging while external calls can be redirected to a person.

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Before you read further, refer to Task 37, *Call Forward No Answer* for more information on the basic Call Forward No Answer feature. The information presented here focuses on the enhancements provided by the Call Forward by Call Type - Call Forward No Answer feature.

The name of the feature in the *X11 features and services* is Call Forward by Call Type. Look it up using that name. This Task module concentrates on the Call Forward No Answer aspects of this feature. For more information on the other aspects of this feature, refer to Task 36, *Call Forward by Call Type (Hunting Option)*.

Table 194
Software requirements

Release required	Software package(s) required
10	none

Call Forward by Call Type (Call Forward No Answer Option)

Programming the Customer Data Block (LD 15)

There are customer-wide parameters called treatments which must be programmed for the basic Call Forward No Answer feature. These treatments must be programmed for the Call Forward by Call Type (Call Forward No Answer Option) feature to work as well. More information on these parameters can be found in Task 37, *Call Forward No Answer*. Call Forward by Call Type (Call Forward No Answer Option) only works if you program FDN or HNT as the treatments in LD 15.



Programming the telephones

To enable the Call Forward by Call Type (Call Forward No Answer Option) capability, you allow the Call Forward No Answer feature, in addition to the Call Forward by Call Type feature, in the Class of Service of the telephone.

When you allow Call Forward by Call Type in the Class of Service of a telephone, you can program Call Forward No Answer by Call Type as well as Hunting by Call Type. You select the telephones that are to have Call Forward by Call Type, then you use the procedure in this module to program each one.

If LD 15 Call Forward No Answer treatment is HNT when you allow Call Forward by Call Type for a telephone, you program two DNs for the following situations:

- ◆ a Hunt DN for internal calls to use for Hunting and Call Forward No Answer
- ◆ a Hunt DN for external calls to use for Hunting and Call Forward No Answer

If LD 15 Call Forward No Answer treatment is FDN when you allow Call Forward by Call Type for a telephone, you program four DNs for the following situations:

- ◆ a Call Forward No Answer DN for internal calls
- ◆ a Call Forward No Answer DN for external calls
- ◆ a Hunt DN for internal calls
- ◆ a Hunt DN for external calls

Call Forward by Call Type (Call Forward No Answer Option)

You do not have to program four different DNs. For example, you might want internal and external unanswered calls to forward differently, but you might want calls of both types to Hunt to one destination. You can program the same DN for both internal and external Hunting.



Once you activate Call Forward by Call Type in the Class of Service, you must input a DN in response to these two (or four) programming prompts. You cannot leave the response to any of these prompts blank. If you do not want calls of a certain type to forward, you input the DN of the telephone itself in response to the prompt. If you do this, the telephone continues to ring when the telephone is not answered, instead of the call forwarding to another DN.

For the purposes of the Call Forward by Call Type feature, internal calls are defined as:

- ◆ telephone to telephone calls
- ◆ incoming calls from Direct Inward System Access (DISA) DNs
- ◆ incoming calls from trunk groups identified as *internal-type* in the programming of their Route Data Blocks

Only incoming calls from trunk groups which are designated as *external-type* are sent to the external Hunt DN or the external Call Forward No Answer DN programmed for a telephone when it is busy or not answered. The treatments for external calls, internal calls, and DID calls are specified in the Customer Data Block.

When a telephone is not answered, it is very common for a user to want internal calls routed to Voice Mail and external calls routed to a person. If this is the case, you might want to program a private network TIE trunk group as *internal-type*, if the calls coming in on these TIE trunks can be routed to Voice Mail along with other *internal-type* calls.

Using the feature

Refer to the illustrations and text prior to this part for information on the use of this feature.

Call Forward by Call Type (Call Forward No Answer Option)

Interactions with other features

Call Forward by Call Type (Call Forward No Answer Option) works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *XII features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Refer to Task 37, *Call Forward No Answer* for the interactions mentioned there. Here, the focus is on the interactions specific to Call Forward by Call Type operation. The basic interactions in Task 37, *Call Forward No Answer*, still apply and you should make yourself familiar with them.

Call Forward All Calls interacts with Call Forward by Call Type (Call Forward No Answer Option)

When a user activates the Call Forward All Calls feature, all incoming calls are redirected to the Call Forward All Calls destination manually input by the user at the telephone, regardless of what call-type they are. Incoming calls do not ring the telephone when Call Forward All Calls is active.

The following example illustrates another way the two features interact.

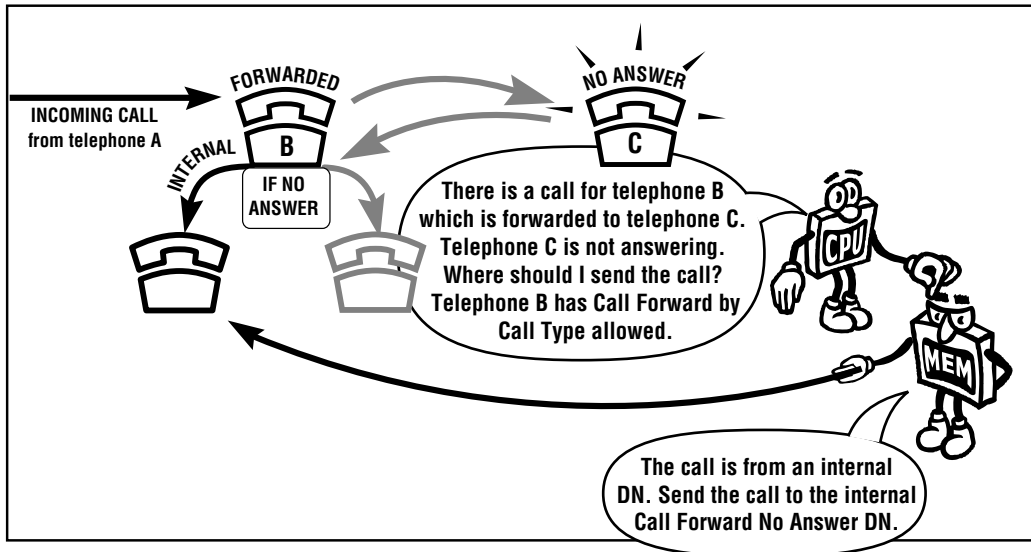


User A calls telephone B. Telephone B is in Call Forward All Calls mode, redirecting calls to telephone C. If user C does not answer, *the call redirects to the Call Forward No Answer DN programmed for telephone B, since that was the originally dialed DN. The call forwards based on its call-type, if Call Forward by Call Type is allowed.*

If telephone C is the Call Forward No Answer DN of telephone B, then telephone C continues to ring and does not forward, even if Second Level Call Forward No Answer is allowed.

Call Forward by Call Type (Call Forward No Answer Option)

Call Forward All Calls interacts with Call Forward by Call Type (Call Forward No Answer Option)



553-0061T CFCTCFNA

Multiple Appearance DNs interact with Call Forward by Call Type (Call Forward No Answer Option)

Refer to the information on this interaction in Task 37, *Call Forward No Answer*. When the Call Forward No Answer feature name is used, you can substitute the Call Forward by Call Type (Call Forward No Answer Option) feature name and the information still applies.

Private Lines interact with Call Forward by Call Type - Call Forward No Answer

Trunks can be programmed to operate as Private Lines. When you program a trunk in this way, incoming calls on the trunk are programmed to terminate at a certain DN. This DN can appear on one, or more than one telephone. Even though the incoming calls on this Private Line ring at a DN, many features that normally operate on a DN do not apply to Private Line DNs. One of these is Call Forward by Call Type (Call Forward No Answer Option). This feature will not operate on that DN when an external or internal call is not answered.

Call Forward by Call Type (Call Forward No Answer Option)

Call Forward by Call Type (Call Forward No Answer Option) only operates on the DNs on a telephone which are not programmed as Private Line DNs.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Call Party Name Display (CPND)

Table 195
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

The redirection codes can be up to four letters long. The default code for redirection by the Call Forward No Answer feature is the letter N. Calls which are redirected by the feature Call Forward by Call Type (Call Forward No Answer Option) also display the letter N. Decide what codes will work best for your users.

These codes can be seen on telephones with displays when calls are presented to them after being redirected by features such as Hunting.

For example, you might want people to see the code BUSY on their displays when they answer calls for other telephones because those people are busy and the calls Hunted.

Call Forward by Call Type (Call Forward No Answer Option)

People can greet the caller more appropriately if they know why the calls are being presented to their telephones in the first place.

Talk to your system supplier about implementing Call Party Name Display or you can refer to the *X11 features and services* for more information. The programming involved is beyond the scope of this book.

DID calls can ring at a telephone and then forward to the attendant

Direct Inward Dialing Call Forward No Answer Timer interacts with Call Forward No Answer by Call Type

With release 16.87G, you can program a timer defined in terms of the number of rings, that applies to unanswered DID calls. This timer is called the Direct Inward Dialing Call Forward No Answer Timer (DFNR). It must be enabled at the Customer Data Block level. When a call rings no answer, the Call Forward No Answer feature redirects the call. If the DID trunks are programmed as external-type and the unanswered telephone has Call Forward by Call Type allowed in its Class of Service, then the call forwards to the external Call Forward No Answer DN programmed for the telephone. If the DID trunks are programmed as internal-type and the unanswered telephone has Call Forward by Call Type allowed in its Class of Service, then the call forwards to the internal Call Forward No Answer DN programmed for the telephone.

If there is still no answer, the call is redirected to the attendant after the specified number of rings. There is a maximum of two Call Forward No Answer steps for this feature to operate. Therefore the feature called Second Level Call Forward No Answer conflicts with this.

For the feature DFNR Timer to work, the Customer Data Block must be programmed for Call Forward No Answer DID call treatments with a HNT response or FDN response.

Call Forward by Call Type (Call Forward No Answer Option)

An unanswered call can forward twice

Second Level Forward No Answer

Table 196
Software requirements

Release required	Software package(s) required
10	none

When an incoming call is not answered, it redirects to the Call Forward No Answer DN programmed at the originally dialed DN. The Call Forward No Answer DN might also ring no answer.

If it is programmed with Call Forward No Answer and Second Level Forward No Answer allowed in its Class of Service, the call redirects a second time. The call redirects to the Call Forward No Answer DN programmed at the second telephone.

If Call Forward by Call Type is allowed at both telephones, the forwarding occurs based on the call-type of the incoming call and the internal or external forwarding DN programmed at each ringing telephone.

After two Call Forward No Answer steps, a call can:

- ◆ recall to an attendant, if the call was originally extended by an attendant
- ◆ continue to ring until it is answered, if it is not an attendant-extended call
- ◆ stop ringing if the caller hangs up

There is a maximum of two Call Forward No Answer steps per call.

For more information, refer to Task 41, *Second Level Call Forward No Answer*.

Call Forward by Call Type (Call Forward No Answer Option)

A user can change the Call Forward No Answer DN using the telephone

User Selectable Call Redirection (USCR))

Table 197
Software requirements

Release required	Software package(s) required
19	139 — Flexible Feature Codes (FFC)

Ringing Cycle Options are part of the USCR feature.

Basic Call Forward No Answer has only one setting in the Customer Data Block (LD 15), for the number of times a telephone will ring before a call forwards. The setting affects all telephones in that customer group.

With the USCR feature, you can program three different Ringing Cycle Options in LD 15. Designated users can choose from these three ringing options to suit their individual needs. For each option the range is one to fifteen rings and the default for each option is four rings.

When you initially program each telephone, you assign it a Ringing Cycle Option. If you do not set it otherwise, Option 0 is entered by default. This option determines the number of times that telephone rings before Call Forward No Answer occurs. The user can select another ringing option later as long as the User Selectable Call Redirection option has been allowed in their Class of Service and that user has been given a Station Control Password.

Reprogramming redirection DNs is another part of the USCR feature.

A user can modify the DN for the following redirection-related features:

- ◆ Call Forward No Answer
- ◆ Hunting

Call Forward by Call Type (Call Forward No Answer Option)

If the telephone has Call Forward by Call Type allowed in the Class of Service, the user can change the DNs for the two features just listed as well as for the following two additional features:

- ◆ External Call Forward No Answer
- ◆ External Hunting

When you install a telephone, you must program a Call Forward No Answer DN (or possibly two different ones for internal calls and external calls) in order for the user to be able to change it with this feature.

For more information, refer to Task 42, *User Selectable Call Redirection*.

Users can choose not to forward when calling an unanswered telephone

Call Forward/Hunt Override Via Flexible Feature Code (FFC)

Table 198
Software requirements

Release required	Software package(s) required
20	139 — Flexible Feature Codes (FFC)

Note: in a networking environment, you need software package 159 — Network Attendant Service (NAS)

If a calling telephone (internal or on a NAS-equipped ISDN network) has the Call Forward/Hunt Override feature enabled in its Class of Service, it can override the Call Forward No Answer feature programmed on the called telephone. External callers (except those using Direct Inward System Access (DISA) ports cannot override the external Call Forward No Answer treatment if the telephone has Call Forward by Call Type allowed.

Call Forward by Call Type (Call Forward No Answer Option)

To use the Call Forward No Answer Override, the user initiates a call using a Flexible Feature Code (FFC) assigned for that purpose. If the called telephone is idle, it rings. Call Forward No Answer does not occur, the telephone rings until it is answered or the caller hangs up.

A call to a busy telephone does not Hunt if the call was initiated with the FFC for the override feature. The caller hears a busy tone. The caller can choose to queue for the busy telephone by using the Ring Again feature. For more information, refer to Task 38, *Hunting*.

Unanswered external calls can be redirected to an alternate DN at certain times of day

Call Redirection by Time of Day

Table 199
Software requirements

Release required	Software package(s) required
22	none

With the Call Redirection by Time of Day (CRTOD) feature, incoming external unanswered calls can be automatically redirected to a predefined Directory Number at a specified time of day. You can program four Alternate Redirection time periods for each Customer Group.

This is useful for users who want their external unanswered calls to redirect to alternate DNs at specified times of the day. You assign one of the Alternate Redirection time periods to the user's telephone.

The Call Redirection by Time of Day feature also applies to Call Forward No Answer, Hunting and Call Forward by Call Type (Hunting option). Refer to the information on those features in this book.

Call Forward by Call Type (Call Forward No Answer Option)

Unanswered calls can be redirected to an alternate DN on certain days

Call Redirection by Day

Table 200
Software requirements

Release required	Software package(s) required
24	none

With the Call Redirection by Day (CRDAY) feature, incoming external calls can be automatically redirected to an alternate predefined Directory Number on one or more specified days of the week and/or holidays. You can program four Alternate Day Lists and four Alternate Holiday Lists for each Customer Group. Each Alternate Holiday List can contain up to 20 dates.

If a user wants their unanswered external calls to be redirected to a DN that is different from the one to which calls are normally sent, on certain days and/or holidays, then you assign one of the Alternate Day Lists and/or one of the Alternate Holiday Lists to the user's telephone. You program the alternate redirection DNs to be used for different types of redirected calls on those days for each telephone.

The Call Redirection by Day feature also applies to Call Forward No Answer, Hunting and Call Forward by Call Type (Hunting option). Refer to the information on those features in this book.

Call Forward by Call Type (Call Forward No Answer Option)

Control tips



- ◆ On a regular basis, you might want to print the Call Forward No Answer DN's which users are programming if you have User Selectable Call Redirection in place. If you have a network, users might be programming DN's which are actually in other switches and this might be causing confusion to your callers, especially callers external to your system. Tell users what DN's are acceptable for them to program and tell them you are doing regular printouts to check this.

Administration tips



- ◆ The tips in Task 37, *Call Forward No Answer* apply here as well. Refer to these for information.
- ◆ Decide which trunk groups to program as external-type and which to program as internal-type.
- ◆ Understand the types of incoming calls you get on each different trunk group. Understand how these callers react to different Call Forward No Answer treatments, for example, forwarding to Voice Mail or forwarding to a secretary or forwarding to a co-worker. Find out which treatment best serves the callers.
- ◆ If you are implementing Call Forward by Call Type (Call Forward No Answer Option) so that external calls forward to a person and internal calls forward to Voice Mail, ensure that you understand how the callers will react to that. Check that you have implemented Voice Mail so that internal callers can reach a person if they want. Train the users to tell callers, in their Voice Mail greeting, how to reach a person.
- ◆ If you have Second Level Call Forward No Answer, you must understand the forwarding pattern that the user is joining before you program the telephone. The person at the second forwarding DN must be trained to deal with the types of calls that will forward to the telephone. For example, if that user will answer external calls only, you must prepare the user for that.

Call Forward by Call Type (Call Forward No Answer Option)

Training tips



- ◆ As with basic Call Forward No Answer, the users must be trained to understand the forwarding patterns of the telephones and the interactions that might occur if more than one feature operates simultaneously.
- ◆ Use real examples of situations they could encounter. Demonstrate, if possible, to make the users comfortable. This results in fewer repair calls if you and your users understand the features fully.

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 201
Checklist

Basic	Optional	Preparation
✓		Decide if your company-wide policies agree with forwarding internal calls differently from external calls.
✓		Decide what choices users have for forwarding DN, if you want them to treat internal and external calls differently.
✓		Decide, on a user by user basis, who needs this feature. Find out what internal forwarding DN and what external forwarding DN each user needs.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

Table 201
Checklist (Continued)

Basic	Optional	Preparation
✓		Decide which trunk groups to program as internal-type and which to program as external-type.
✓		Verify the treatments for the call-types programmed in LD 15.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same internal and external forwarding DNs for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs and require different forwarding DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
	✓	Prepare your training information, and materials. Plan the way you want to address interactions.
	✓	Assign a code which will display when calls forward. Train the users.
	✓	Print out the second forwarding DN(s) if Second Level Call Forward No Answer is allowed. Make sure the forwarding pattern is appropriate for internal and external calls to this telephone.
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

Table 201
Checklist (Continued)

Basic	Optional	Preparation
	✓	Decide if the user should be able to change the forward DN(s) programmed for the telephone. Assign a Station Control Password. Assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user can use the Override capability. If so, assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user needs calls redirected to an alternate DN during a certain daily time period.
	✓	With DID telephones, decide whether you want the DFNR timer.

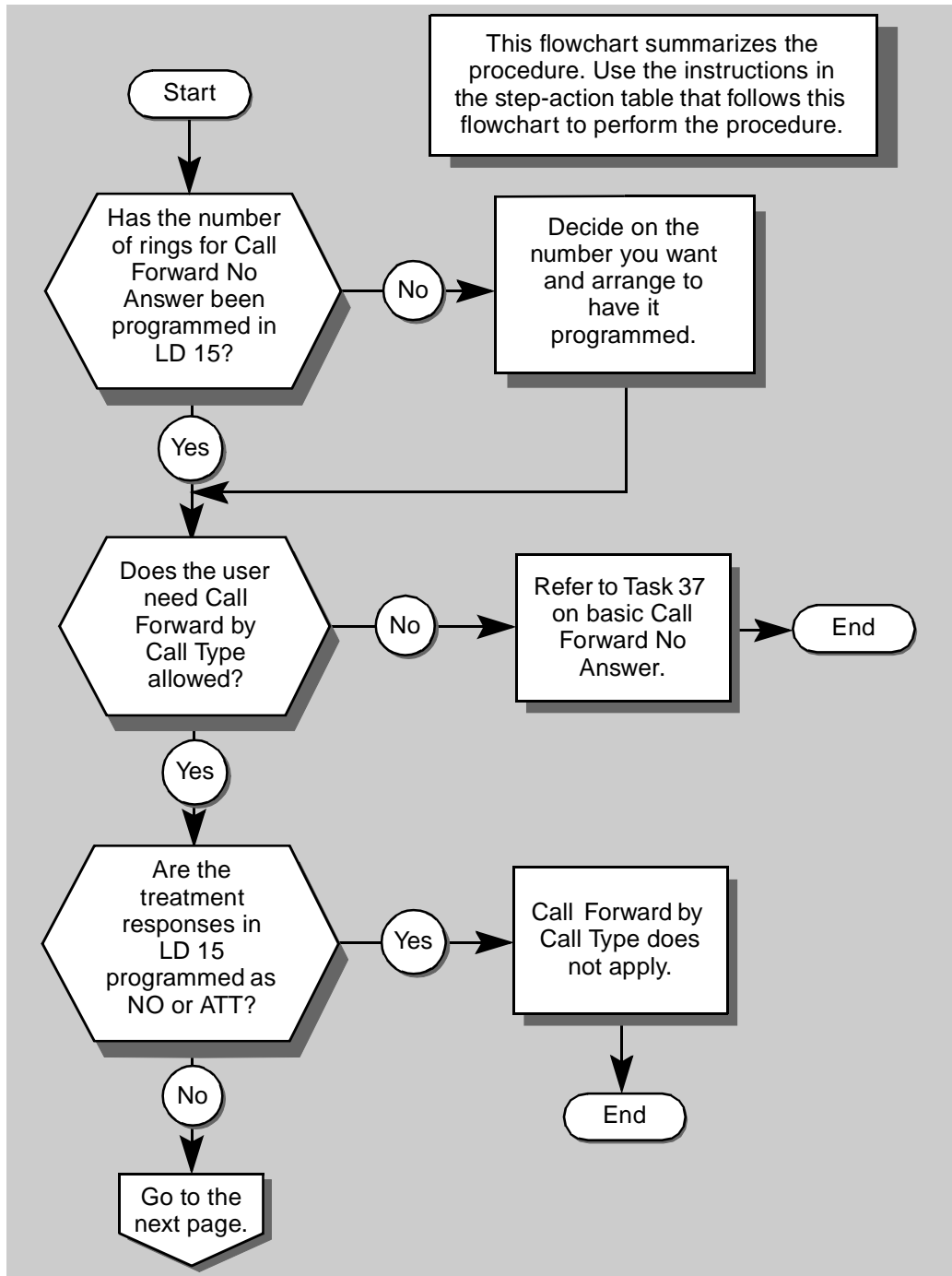
Call Forward by Call Type (Call Forward No Answer Option)

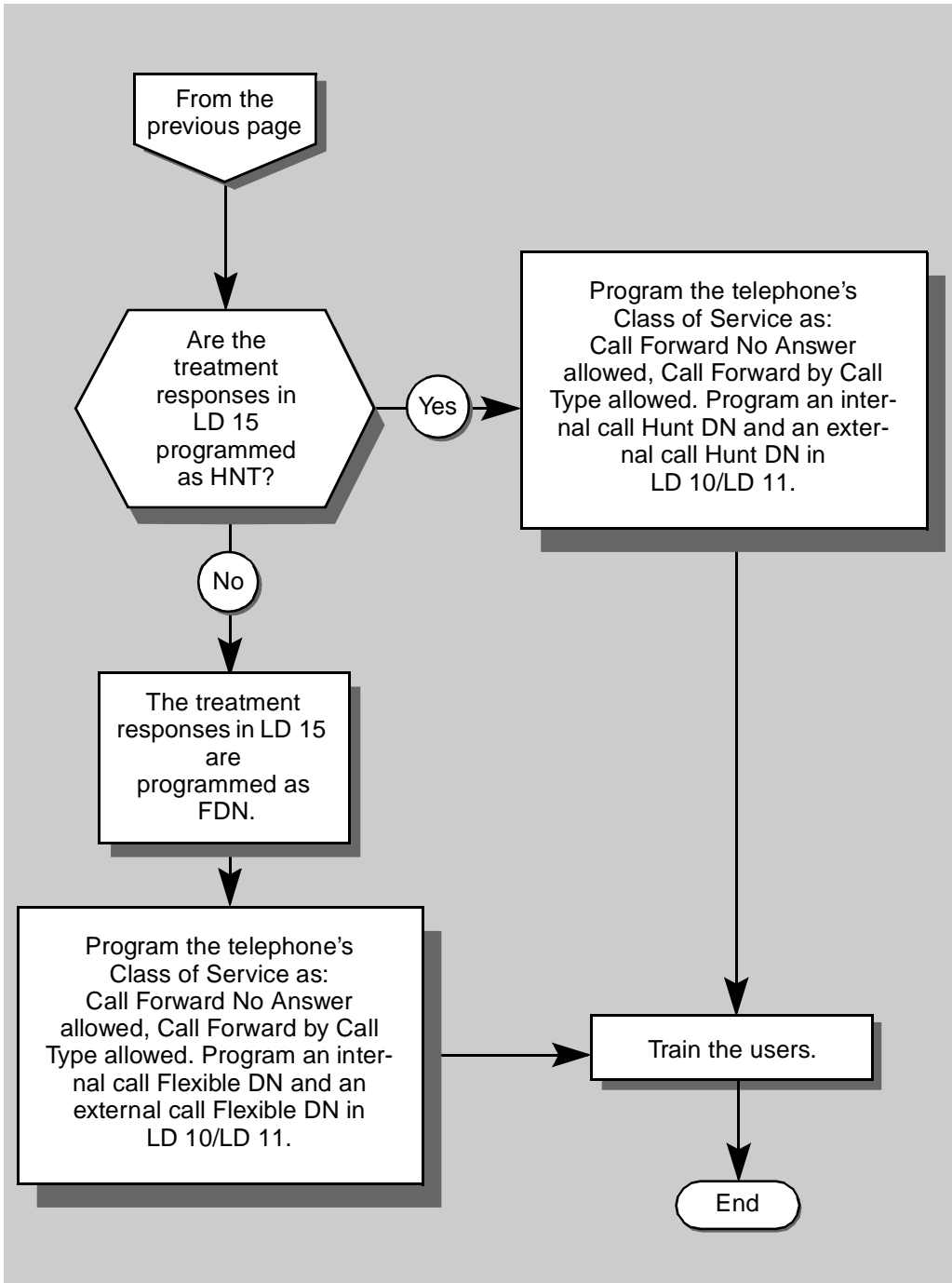
What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Call Forward by Call Type (Call Forward No Answer Option).

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Call Forward by Call Type (Call Forward No Answer Option)



Call Forward by Call Type (Call Forward No Answer Option)

Call Forward by Call Type (Call Forward No Answer Option)

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Forward by Call Type (Call Forward No Answer Option) feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION	
1	Choose your starting point from the choices below.	
	If	Do
	new telephone	step 2
	change to an existing telephone	step 11
2	Check that the number of rings for a “no answer” has been programmed.	
	The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.	
	If	Do
	not programmed	Ask your system supplier to program it. Go to step 3.
	programmed	step 3
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION										
3	<p>Check that the call treatments for all call-types on your system have been programmed.</p> <p>The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.</p> <table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>not programmed</td> <td>Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call- type. Go to step 4.</td> </tr> <tr> <td>programmed</td> <td>step 4</td> </tr> </tbody> </table>	If	Do	not programmed	Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call- type. Go to step 4.	programmed	step 4				
If	Do										
not programmed	Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call- type. Go to step 4.										
programmed	step 4										
4	<p>Choose your next step from the choices below.</p> <p>The treatments programmed in LD 15 affect what programming you must do in LD 10 and LD 11, the telephone overlay programs.</p> <table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>treatments are NO</td> <td>You cannot program Call Forward by Call Type (Call Forward No Answer Option). Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.</td> </tr> <tr> <td>treatments are ATT</td> <td>You cannot program Call Forward by Call Type (Call Forward No Answer Option). Refer to Task 37, if you want basic Call Forward No Answer.</td> </tr> <tr> <td>treatments are HNT</td> <td>step 5</td> </tr> <tr> <td>treatments are FDN</td> <td>step 8</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	treatments are NO	You cannot program Call Forward by Call Type (Call Forward No Answer Option). Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.	treatments are ATT	You cannot program Call Forward by Call Type (Call Forward No Answer Option). Refer to Task 37, if you want basic Call Forward No Answer.	treatments are HNT	step 5	treatments are FDN	step 8
If	Do										
treatments are NO	You cannot program Call Forward by Call Type (Call Forward No Answer Option). Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.										
treatments are ATT	You cannot program Call Forward by Call Type (Call Forward No Answer Option). Refer to Task 37, if you want basic Call Forward No Answer.										
treatments are HNT	step 5										
treatments are FDN	step 8										

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
5	Program the new telephone so unanswered calls forward to an internal or external Hunt DN.	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
	If	Do

	telephone is dial or Digitone-type	step 6
	telephone is digital or SL-1-type	step 7
6	Program the new dial or Digitone-type telephone so unanswered calls forward to an internal or external Hunt DN.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
6 continued ...		
	carriage return until you see the prompt CLS	
CLS	FNA CFTA	Call Forward No Answer allowed Call Forward by Call Type allowed
	carriage return until you see the prompt FTR	
FTR	EHT X . . X	Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
7	Program the new digital or SL-1-type telephone so unanswered calls forward to an internal or external Hunt DN.	
	> LD 11	
REQ	NEW	Program a new telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
<i>7 continued ...</i>	
	carriage return until you see the prompt CLS
CLS	FNA CFTA Call Forward No Answer allowed Call Forward by Call Type allowed
	carriage return until you see the prompt HUNT
HUNT	X . . X Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
EHT	X . . X Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
8	Program the new telephone so unanswered calls forward to the flexible Call Forward No Answer DN.	
	Login. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
	If	Do

	telephone is dial or Digitone-type	step 9
	telephone is digital or SL-1-type	step 10
9	Program the new dial or Digitone-type telephone so unanswered calls forward to an internal or external FDN.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt CLS	
	CLS FNA CFTA	Call Forward No Answer allowed Call Forward by Call Type allowed
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
9 <i>continued ...</i>		
	carriage return until you see the prompt FTR	
FTR	F DN X . . X	Input the DN to which internal calls are to forward, X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
FTR	E FD	Input the DN to which external calls are to forward, X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
10	Program the new digital or SL-1-type telephone so unanswered calls forward to an internal or external FDN.	
	> LD 11	
REQ	NEW	Program a new telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
10 <i>continued ...</i>		
	carriage return until you see the prompt FDN	
FDN	X . . X	Input the DN to which internal calls are to forward. X..X represent a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
CLS	FNA CFTA	Call Forward No Answer allowed Call Forward by Call Type allowed
	carriage return until you see the prompt EFD	
EFD	X . . X	Input the DN to which external calls are to forward. X..X represent a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
11	Choose your next step from the choices below.	
	If	Do

	you want to change the number of rings before calls forward	Ask your system supplier to program the change in LD 15.
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP ACTION	
11 continued ...	
If	Do
you want to change the call treatments for any of the call types	Ask your system supplier to program the change in LD 15.
you want to change a telephone from Call Forward by Call Type denied to allowed	step 12
you want to change a telephone from Call Forward by Call Type allowed to denied	step 27
you want to change the DN to which calls forward	step 34
12 Choose your next step based on what is programmed for treatments in LD 15, the Customer Data Block.	
If	Do
you do not have access to LD 21	Ask your system supplier what Call Forward No Answer treatments are programmed in the Customer Data Block. Look at the If-Do list below to find what step to go to based on the treatments which are programmed.
you do have access to LD 21	Log in and print your Customer Data Block. Look at the response to each of the following prompts: FNAD, FNAN (pre-Release 10 systems) FNAD, FNAT, FNAL (Release 10 and later)
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
12 continued ...		
	If	Do

	treatments are NO	You cannot have Call Forward by Call Type. If you want the feature, ask your system supplier to reprogram LD 15. Then follow the step below which is appropriate for the treatments you chose.
	treatments are ATT	You cannot have Call Forward by Call Type. If you want the feature, ask your system supplier to reprogram LD 15. Then follow the step below which is appropriate for the treatments you chose.
	treatments are HNT	step 13
	treatments are FDN	step 20
13	Choose your next step based on the type of telephone you are changing.	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
	If	Do

	dial or Digitone-type	step 14
	digital or SL-1-type	step 17
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
14	Change an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.	
	> LD 10	
	REQ CHG	Program a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 15.
	not using "Easy Change"	Input NO or <cr> and go to step 16.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
15	<p>Program an “Easy Change” to an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.</p>
	<p>ITEM CLS CFTA Change Class of Service to Call Forward by Call Type allowed. Input FNA, if basic Call Forward No Answer is not already allowed.</p>
	<p>ITEM HUNT X..X Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>ITEM FTR EHT X..X Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>Go to step 41.</p>
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
16	<p>Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.</p> <p>carriage return until you see the prompt HUNT</p> <p>HUNT X . . X Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>carriage return until you see the prompt CLS</p> <p>CLS CFTA Change Class of Service to Call Forward by Call Type allowed. Input FNA, if basic Call Forward No Answer is not already allowed.</p> <p>carriage return until you see the prompt FTR</p> <p>FTR EHT X . . X Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 41.</p>
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
17	Change an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 18.
	not using "Easy Change"	Input NO or <cr> and go to step 19.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
18	<p>Program an “Easy Change” to an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.</p>
	<p>ITEM CLS CFTA Change Class of Service to Call Forward by Call Type allowed. Input FNA, if basic Call Forward No Answer is not already allowed.</p>
	<p>ITEM HUNT X..X Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>ITEM EHT X..X Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>Go to step 41.</p>
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
19	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external Hunt DN.	
	carriage return until you see the prompt CLS	
	CLS CFTA	Change Class of Service to Call Forward by Call Type allowed. Input FNA, if basic Call Forward No Answer is not already allowed.
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt EHT	
	EHT X . . X	Input the DN to which external calls are to forward (and Hunt, if you are also allowing Hunting). X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION														
20	<p>Choose your next step based on the type of telephone you are changing.</p> <p>Login. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>dial or Digitone-type</td> <td>step 21</td> </tr> <tr> <td>digital or SL-1-type</td> <td>step 24</td> </tr> </tbody> </table>	If	Do	dial or Digitone-type	step 21	digital or SL-1-type	step 24						
If	Do														
.....														
dial or Digitone-type	step 21														
digital or SL-1-type	step 24														
21	<p>Change an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external FDN.</p> <p>> LD 10</p> <table border="0"> <tr> <td>REQ CHG</td> <td>Program a change to an existing telephone</td> </tr> <tr> <td>TYPE 500</td> <td>Dial or Digitone-type telephone</td> </tr> <tr> <td>TN L S C U</td> <td>Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)</td> </tr> </table> <p>ECHG</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>using "Easy Change"</td> <td>Input YES and go to step 22.</td> </tr> <tr> <td>not using "Easy Change"</td> <td>Input NO or <cr> and go to step 23.</td> </tr> </tbody> </table> <p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p> <p style="text-align: center;">— continued —</p>	REQ CHG	Program a change to an existing telephone	TYPE 500	Dial or Digitone-type telephone	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)	If	Do	using "Easy Change"	Input YES and go to step 22.	not using "Easy Change"	Input NO or <cr> and go to step 23.
REQ CHG	Program a change to an existing telephone														
TYPE 500	Dial or Digitone-type telephone														
TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)														
If	Do														
.....														
using "Easy Change"	Input YES and go to step 22.														
not using "Easy Change"	Input NO or <cr> and go to step 23.														

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
22	<p>Program an “Easy Change” to an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external FDN.</p>
	<p>ITEM CLS CFTA Change Class of Service to Call Forward by Call Type allowed. Input FNA if basic Call Forward No Answer Allowed is not already allowed.</p>
	<p>ITEM FTR FDN X..X Input the Flexible DN to which internal calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>ITEM FTR EFD X..X Input the Flexible DN to which external calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>Go to step 41.</p>
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
23	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to allow unanswered calls to forward to an internal or external FDN.	
	carriage return until you see the prompt CLS	
	CLS CFTA	Change Class of Service to Call Forward by Call Type allowed. Input FNA if basic Call Forward No Answer is not already allowed.
	carriage return until you see the prompt FTR	
	FTR FDN X . . X	Input the DN to which internal calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	FTR EFD X . . X	Input the DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
24	Change an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external FDN.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 25.
	not using "Easy Change"	Input NO or <cr> and go to step 26.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
25	<p>Program an “Easy Change” to an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external FDN.</p>
	<p>ITEM CLS CFTA Change Class of Service to Call Forward by Call Type allowed. Input FNA if basic Call Forward No Answer is not already allowed.</p>
	<p>ITEM FDN X..X Input the DN to which internal calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>ITEM EFD X..X Input the DN to which external calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	<p>Go to step 41.</p>
<p>— continued —</p>	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
26	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to allow unanswered calls to forward to an internal or external FDN.	
	carriage return until you see the prompt FDN	
	FDN X . . X	Input the DN to which internal calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
	CLS CFTA	Change Class of Service to Call Forward by Call Type allowed. Input FNA if basic Call Forward No Answer is not already allowed.
	carriage return until you see the prompt EFD	
	EFD X . . X	Input the DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 41.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION												
27	<p>Choose your next step based on the type of telephone you are changing to Call Forward by Call Type denied.</p> <p>Do a TNB printout of the telephone you are changing. If you need more information on how to do the printout, refer to <i>Basic programming instructions</i> in this book.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <p>you do not have access to LD 21</p> </td> <td style="vertical-align: top;"> <p>Ask your system supplier what Call Forward No Answer treatments are programmed in the Customer Data Block. Look at the If-Do list below to find what step to go to based on the type of telephone you are programming.</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>you do have access to LD 21</p> </td> <td style="vertical-align: top;"> <p>Log in and print your Customer Data Block. Look at the response to each of the following prompts: FNAD, FNAN (pre-Release 10 systems) FNAD, FNAT, FNAL (Release 10 and later)</p> </td> </tr> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> <tr> <td style="vertical-align: top;"> <p>dial or Digitone-type</p> </td> <td style="vertical-align: top;"> <p>step 28</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>digital or SL-1-type</p> </td> <td style="vertical-align: top;"> <p>step 31</p> </td> </tr> </tbody> </table>	If	Do	<p>you do not have access to LD 21</p>	<p>Ask your system supplier what Call Forward No Answer treatments are programmed in the Customer Data Block. Look at the If-Do list below to find what step to go to based on the type of telephone you are programming.</p>	<p>you do have access to LD 21</p>	<p>Log in and print your Customer Data Block. Look at the response to each of the following prompts: FNAD, FNAN (pre-Release 10 systems) FNAD, FNAT, FNAL (Release 10 and later)</p>	If	Do	<p>dial or Digitone-type</p>	<p>step 28</p>	<p>digital or SL-1-type</p>	<p>step 31</p>
If	Do												
<p>you do not have access to LD 21</p>	<p>Ask your system supplier what Call Forward No Answer treatments are programmed in the Customer Data Block. Look at the If-Do list below to find what step to go to based on the type of telephone you are programming.</p>												
<p>you do have access to LD 21</p>	<p>Log in and print your Customer Data Block. Look at the response to each of the following prompts: FNAD, FNAN (pre-Release 10 systems) FNAD, FNAT, FNAL (Release 10 and later)</p>												
If	Do												
<p>dial or Digitone-type</p>	<p>step 28</p>												
<p>digital or SL-1-type</p>	<p>step 31</p>												
— continued —													

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
28	Change an existing dial or Digitone-type telephone to deny unanswered calls from forwarding by call-type.	
	<pre>> LD 10</pre>	
	REQ CHG	Program a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 29.
	not using "Easy Change"	Input NO or <cr> and go to step 30.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
29	<p>Program an “Easy Change” to an existing dial or Digitone-type telephone to deny unanswered calls from forwarding by call-type.</p>
ITEM	<p>CLS CFTD Change Class of Service to Class of Service Call Forward by Call Type denied</p>
If	Do
<p>LD 15 treatment is HNT and existing Hunt DN is not appropriate for forwarding and Hunting of all calls</p>	<p>ITEM HUNT X..X X..X represents the proper DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
<p>The system automatically removes the FTR EHT programming when you deny Call Forward by Call Type.</p>	
<p>LD 15 treatment is FDN and existing Hunt DN is not appropriate for Hunting all calls</p>	<p>ITEM HUNT X..X X..X represents the proper DN</p>
<p>LD 15 treatment is FDN and existing FDN is not appropriate for forwarding all calls</p>	<p>ITEM FTR FDN X..X X..X represents the proper DN</p>
<p>The system automatically removes the FTR EFD programming when you deny Call Forward by Call Type.</p>	
<p>Go to step 41.</p>	
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION						
30	<p>Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to deny unanswered calls from forwarding by call-type.</p> <p>Carriage return until you see the prompt HUNT</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <p>LD 15 treatment is HNT and existing Hunt DN is not appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting)</p> </td> <td style="vertical-align: top;"> <p>Input X..X or <cr> X..X represents a DN</p> <p>Input a DN which is appropriate for all hunted and forwarded calls after Call Forward by Call Type is denied.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p>Input <cr> if the existing DN is acceptable.</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>LD 15 treatment is HNT and existing Hunt DN is appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting) or LD 15 treatment is FDN and existing DN is appropriate for Hunting all calls</p> </td> <td style="vertical-align: top;"> <p>Input <cr></p> </td> </tr> </tbody> </table>	If	Do	<p>LD 15 treatment is HNT and existing Hunt DN is not appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting)</p>	<p>Input X..X or <cr> X..X represents a DN</p> <p>Input a DN which is appropriate for all hunted and forwarded calls after Call Forward by Call Type is denied.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p>Input <cr> if the existing DN is acceptable.</p>	<p>LD 15 treatment is HNT and existing Hunt DN is appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting) or LD 15 treatment is FDN and existing DN is appropriate for Hunting all calls</p>	<p>Input <cr></p>
If	Do						
<p>LD 15 treatment is HNT and existing Hunt DN is not appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting)</p>	<p>Input X..X or <cr> X..X represents a DN</p> <p>Input a DN which is appropriate for all hunted and forwarded calls after Call Forward by Call Type is denied.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p>Input <cr> if the existing DN is acceptable.</p>						
<p>LD 15 treatment is HNT and existing Hunt DN is appropriate for forwarding all calls (and Hunting all calls, if you are allowing Hunting) or LD 15 treatment is FDN and existing DN is appropriate for Hunting all calls</p>	<p>Input <cr></p>						
— continued —							

Call Forward by Call Type (Call Forward No Answer Option)

STEP ACTION

30 continued ...

Carriage return until you see the prompt CLS

CLS CFTD Change Class of Service to Call Forward by Call Type denied.

Carriage return until you see the prompt FTR. If you do not see FTR, the treatments programmed in LD 15 are HNT.

FTR FDN X . . X X..X represents a DN
 Input a DN which is appropriate for all forwarded calls after Call Forward by Call Type is denied.
 1–4 digits prior to Release 13
 1–7 digits Release 13 and later
 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)

FTR <cr> Carriage return, if the existing DN is acceptable.

The system automatically removes the external Hunting and external FDN programming when you deny Call Forward by Call Type.

Go to step 41.

— continued —

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
31	Change an existing digital or SL-1-type telephone to deny unanswered calls from forwarding by call-type.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input the correct type of digital or SL-1 telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 32.
	not using "Easy Change"	Input NO or <cr> and go to step 33.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
32	Program an "Easy Change" to an existing digital or SL-1-type telephone to deny unanswered calls from forwarding by call-type.	
	ITEM CLS CFTD	Change Class of Service to Call Forward by Call Type denied
	If	Do
	LD 15 treatment is HNT and existing Hunt DN is not appropriate for forwarding and Hunting of all calls	ITEM HUNT X..X X..X represents the proper DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	The system automatically removes the EHT programming when you deny Call Forward by Call Type.	
	LD 15 treatment is FDN and existing Hunt DN is not appropriate for Hunting all calls	ITEM HUNT X..X X..X represents the proper DN
	LD 15 treatment is FDN and existing FDN is not appropriate for forwarding all calls	ITEM FDN X..X X..X represents the proper DN
	The system automatically removes the EFD programming when you deny Call Forward by Call Type.	
	Go to step 41.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
33	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to deny unanswered calls from forwarding by call-type.	
	carriage return until you see the prompt FDN	
	FDN X . . X	X..X represents the proper DN for forwarding all call-types after Call Forward No Answer by Call Type is denied. You see this prompt only if one of the treatments in LD 15 is FDN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	<cr>	Carriage return if the DN is already correct.
	carriage return until you see the prompt CLS	
	CLS CFTD	Change Class of Service to Call Forward by Call Type denied
	carriage return until you see the prompt HUNT	
	HUNT X . . X	X..X represents the proper DN for forwarding all call-types (and Hunting all call-types if you are allowing Hunting) after Call Forward by Call Type is denied. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	<cr>	You program this prompt for Hunting and forwarding, if the treatments in LD 15 are HNT. Carriage return if the DN is already correct.
	Go to step 41.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
34	Change the DN to which calls forward when the telephone is unanswered.	
	<p>Log in. Do a TNB printout of the telephone you want to change. Look at what is programmed for the FDN prompt on the printout.</p> <p>For information on proper login procedures and TNB printouts, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.</p>	
	If	Do
	no FDN is programmed	step 35
	FDN is programmed	step 38
35	Change the Hunt DN which is used for forwarding calls.	
	<p>> LD 10 or > LD 11</p> <p>REQ CHG Program a change on an existing telephone</p> <p>TYPE Input correct type of 500, or digital, or SL-1-type telephone</p> <p>TN L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)</p> <p>ECHG</p>	
	If	Do
	using "Easy Change"	Input YES and go to step 36.
	not using "Easy Change"	Input NO or <cr> and go to step 37.
	<p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p>	
	— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
36	Program an “Easy Change” to an existing telephone to change the internal or external Hunt DN to which calls forward.
ITEM HUNT X..X	<p>Input the new DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
If	Do
dial or Digitone-type telephone	<p>ITEM FTR EHT X..X</p> <p>Input the new DN to which external calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
digital or SL-1-type telephone	<p>ITEM EHT X..X</p> <p>Input the new DN to which external calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
Go to step 41.	
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
37	<p>Program a change (not an “Easy Change”) to an existing telephone to change the internal or external Hunt DN to which calls forward.</p> <p>carriage return until you see the prompt HUNT</p> <p>HUNT X . . X</p> <p>Input the new DN to which internal calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>If</p> <hr/> <p>dial or Digitone-type telephone</p> <p>Carriage return until you see the prompt FTR.</p> <p>Input EHT X..X Input the new DN to which external calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>digital or SL-1-type telephone</p> <p>Carriage return until you see the prompt EHT.</p> <p>Input X..X Input the new DN to which external calls are to forward (and Hunt, if you are also allowing Hunting).</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 41.</p>
— continued —	

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION	
38	Change the FDN which is used to forward calls.	
	> LD 10 or > LD 11	
REQ	CHG	Program a change on an existing telephone
TYPE		Input correct type of 500, digital, or SL-1-type telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
ECHG		
If		Do
	using "Easy Change"	Input YES and go to step 39.
	not using "Easy Change"	Input NO or <cr> and go to step 40.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION						
39	<p>Program an “Easy Change” to an existing telephone to change the flexible DN to which internal or external calls forward.</p> <p>ITEM</p> <table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>dial or Digitone-type telephone</td> <td> Input FTR FDN X..X Input the new DN to which internal calls are to forward. Input FTR EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) </td> </tr> <tr> <td>digital or SL-1-type telephone</td> <td> Input FDN X..X Input the new DN to which internal calls are to forward. Input EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) </td> </tr> </tbody> </table> <p>Go to step 41.</p>	If	Do	dial or Digitone-type telephone	Input FTR FDN X..X Input the new DN to which internal calls are to forward. Input FTR EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)	digital or SL-1-type telephone	Input FDN X..X Input the new DN to which internal calls are to forward. Input EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
If	Do						
dial or Digitone-type telephone	Input FTR FDN X..X Input the new DN to which internal calls are to forward. Input FTR EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)						
digital or SL-1-type telephone	Input FDN X..X Input the new DN to which internal calls are to forward. Input EFD X..X Input the new DN to which external calls are to forward. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)						
— continued —							


Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION								
40	<p>Program a change (not an “Easy Change”) to an existing telephone to change the flexible DN to which calls forward.</p>								
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>dial or Digitone-type telephone</td> <td> <p>Carriage return until you see the prompt FTR.</p> <p>Input FDN X..X where X..X represents the new DN for forwarding internal calls.</p> <p>The prompt FTR appears again.</p> <p>Input EFD X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> </td> </tr> <tr> <td>digital or SL-1-type telephone</td> <td> <p>Carriage return until you see the prompt FDN.</p> <p>Input X..X where X..X represents the new DN for forwarding internal calls.</p> <p>Carriage return until you see the prompt EFD.</p> <p>Input X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> </td> </tr> <tr> <td>Go to step 41.</td> <td></td> </tr> </tbody> </table>	If	Do	dial or Digitone-type telephone	<p>Carriage return until you see the prompt FTR.</p> <p>Input FDN X..X where X..X represents the new DN for forwarding internal calls.</p> <p>The prompt FTR appears again.</p> <p>Input EFD X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>	digital or SL-1-type telephone	<p>Carriage return until you see the prompt FDN.</p> <p>Input X..X where X..X represents the new DN for forwarding internal calls.</p> <p>Carriage return until you see the prompt EFD.</p> <p>Input X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>	Go to step 41.	
If	Do								
dial or Digitone-type telephone	<p>Carriage return until you see the prompt FTR.</p> <p>Input FDN X..X where X..X represents the new DN for forwarding internal calls.</p> <p>The prompt FTR appears again.</p> <p>Input EFD X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>								
digital or SL-1-type telephone	<p>Carriage return until you see the prompt FDN.</p> <p>Input X..X where X..X represents the new DN for forwarding internal calls.</p> <p>Carriage return until you see the prompt EFD.</p> <p>Input X..X where X..X represents the new DN for forwarding external calls.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>								
Go to step 41.									
— continued —									


Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION						
41	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p>						
42	<p>Check that the programming which you have just done is correct.</p> <p>Place calls to the telephone and let it ring with no answer. Make sure the expected treatment happens.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 43</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 43	feature does not work properly	step 1
If	Do						
feature works properly	step 43						
feature does not work properly	step 1						
43	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 44</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 44
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 44						

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION								
44	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>								
45	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td colspan="2">.....</td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 46</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do		data dump fails	Contact your system supplier.	data dump succeeds	step 46
If	Do								
.....									
data dump fails	Contact your system supplier.								
data dump succeeds	step 46								

Call Forward by Call Type (Call Forward No Answer Option)

STEP	ACTION
46	Terminate this overlay program. . ****
47	Terminate this programming session. Log off. > LOGO
48	You have completed the programming required to add or change the Call Forward by Call Type (Call Forward No Answer Option).
	

1264 Redirecting calls

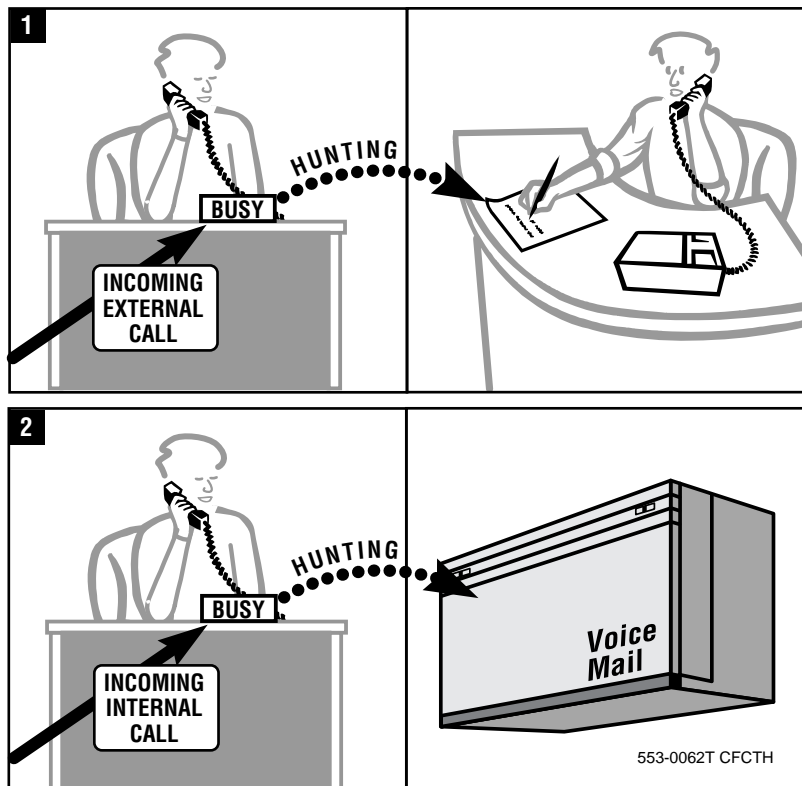
of 1776

Call Forward by Call Type (Call Forward No Answer Option)

Call Forward by Call Type (Hunting Option)

Purpose

This enhancement to the Hunting feature provides the capability for the system to send an internal call to a Directory Number (DN) different from the DN used for an external call when the telephone is busy.



Call Forward by Call Type (Hunting Option)

A very common way to use this capability is shown in the illustration. When the dialed telephone is already busy with a call, internal calls can be redirected to Voice Mail messaging while external calls can be redirected to a person.

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Refer to Task 38, *Hunting* for more information on basic Hunting. The information presented here focuses on the enhancements provided by the Call Forward by Call Type (Hunting Option) feature.

The name of the feature in *X11 features and services* is Call Forward by Call Type. Look it up using that name. This Task module concentrates on the Hunting aspects of this feature. For more information on the other aspects of this feature, refer to Task 35, *Call Forward by Call Type (Call Forward No Answer Option)*.

Table 202
Software requirements

Release required	Software package(s) required
10	none

When you allow Call Forward by Call Type in the Class of Service of a telephone, you can program Call Forward No Answer and Hunting by Call Type. You select the telephones that are to have Call Forward by Call Type, then you use the procedure in this module to program each one.

Call Forward by Call Type (Hunting Option)

When you allow Call Forward by Call Type for a telephone, you program four DNs for the following situations:

- ◆ a Call Forward No Answer DN for internal calls
- ◆ a Call Forward No Answer DN for external calls
- ◆ a Hunt DN for internal calls
- ◆ a Hunt DN for external calls

For more information, on Call Forward No Answer by Call Type, refer to Task 35, *Call Forward by Call Type (Call Forward No Answer Option)*.

You do not have to program four different DNs. For example, you might want internal and external unanswered calls to forward differently, but you might want calls of both types to Hunt to one destination. You can program the same DN for both internal and external Hunting.



Once you activate Call Forward by Call Type in the Class of Service, you must input a DN in response to these four programming prompts. You cannot leave the response to any of these four prompts blank. If you do not want calls of a certain type to Hunt, you input the DN of the telephone itself in response to the prompt. When you do this, callers hear a busy tone when the telephone is busy and the call does not Hunt to another DN.

For example, when your telephone is busy you might want internal callers to hear a busy tone but external callers to Hunt to your assistant. Internal callers can activate Ring Again when they hear a busy tone.

The Camp-on feature does not operate, however, when you program calls in this manner, to Hunt to the telephone's DN. This is something you can mention in training. Refer to *X11 features and services* for further information on Camp-on.

Call Forward by Call Type (Hunting Option)

For the purposes of the Call Forward by Call Type feature, internal calls are defined as:

- ◆ telephone to telephone calls
- ◆ incoming calls from Direct Inward System Access (DISA) DNs
- ◆ incoming calls from trunk groups identified as *internal-type* in the programming of their Route Data Blocks

Only incoming calls from trunk groups that are designated as external-type are sent to the external Hunt DN or the external Call Forward No Answer DN programmed for a telephone when it is busy or not answered.

When a telephone is busy, it is very common for a user to want internal calls routed to Voice Mail and external calls routed to a person. If this is the case, you might want to program a private network TIE trunk group as internal-type, if the calls coming in on these TIE trunks can be routed to Voice Mail along with other internal-type calls.



To enable the Call Forward by Call Type (Hunting Option) capability, you must allow the Hunting feature in addition to the Call Forward by Call Type feature in the Class of Service of the telephone.

Hunt chains and Hunt steps

When Call Forward by Call Type (Hunting Option) is allowed, there are two Hunt chains which the telephone becomes a part of, an internal call Hunt chain and an external call Hunt chain. The number of Hunt steps is system dependent. For information on this, refer to Table 1 in Task 38, *Hunting*.

Kinds of Hunting

Just as for basic Hunting, Call Forward by Call Type (Hunting Option) can be programmed to operate in Linear, Circular, Secretarial or Short Hunting patterns.

Using the feature

Refer to the illustrations and text prior to this section for information on the use of this feature.

Call Forward by Call Type (Hunting Option)

Interactions with other features

Call Forward by Call Type (Hunting Option) works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Call Forward by Call Type (Hunting Option)

Ring Again interacts with Call Forward by Call Type (Hunting Option)

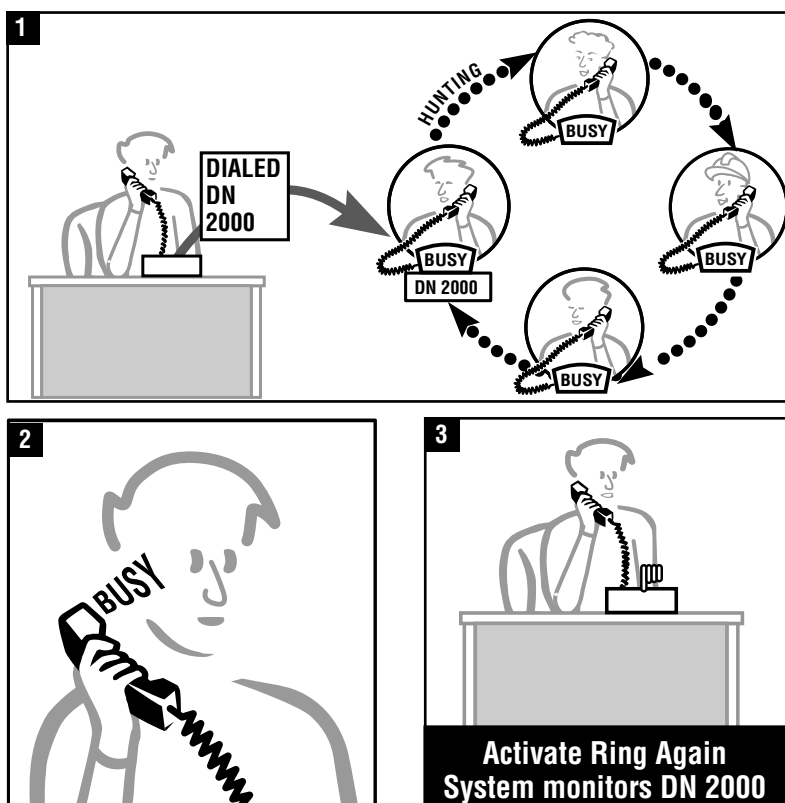


When a call comes in for one of the DNs in the Hunt chain and all the telephones in the chain are busy, the caller hears a busy tone. The system checks the status of the DNs in the Hunt chain only once.

When internal callers, or callers using a Private ISDN network, want to queue for a busy telephone that they have called, they can activate the Ring Again feature or the Network Ring Again feature. The system calls them back when the DN becomes idle.



If the caller queues, the system monitors the originally dialed DN only and not the others in the Hunt chain. When the originally dialed DN becomes idle, the caller receives a call-back.

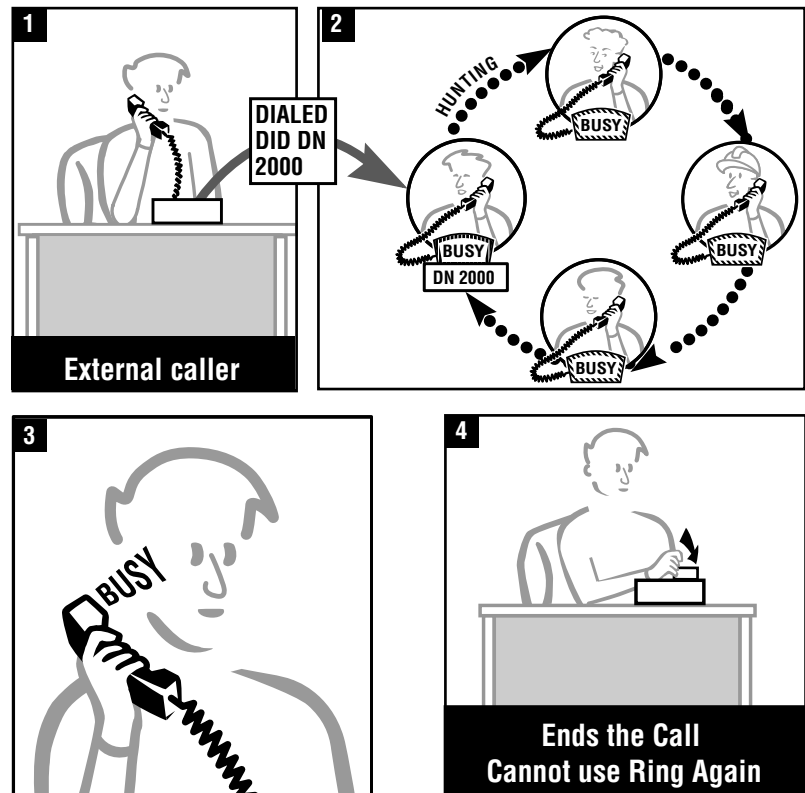


553-0063T CFCTH

Call Forward by Call Type (Hunting Option)

Ring Again interacts with Call Forward by Call Type (Hunting Option)

External callers coming in on non-ISDN trunk groups cannot activate the Ring Again feature if they hear busy tones when all the telephones in the Hunt chain are busy.



553-0064T CFCTH

Call Forward by Call Type (Hunting Option)

Call Forward All Calls interacts with Call Forward by Call Type (Hunting Option)

When a user is talking on a call but they also have the Call Forward All Calls feature activated, incoming calls of both types will be redirected to the Call Forward destination DN, not to the internal Hunt DN or the external Hunt DN programmed for that telephone even though the telephone is busy. The system treats the Call Forward All Calls feature with a higher priority than the Hunting feature. In other words, Call Forward All Calls takes precedence over Hunting.

When a user activates Call Forwards All Calls to another DN and that DN is busy, if that Hunt DN is programmed for Call Forward by Call Type, an internal call Hunts to the internal Hunt DN for that telephone and an external call Hunts to the external Hunt DN for that telephone. This is true unless there is an internal user who is transferring the external call to the original telephone. Then, the call is classified as internal even though the caller is calling in on a trunk.

Call Forward Busy interacts with Call Forward by Call Type (Hunting Option)

You can allow both Call Forward Busy and Call Forward by Call Type (Hunting Option) in the Class of Service of a DID telephone. If you program this, the Hunting feature has priority over Call Forward Busy when the telephone is busy.

When the telephone is busy, and there is an incoming DID call, the system attempts to Hunt the call to the Hunt DN programmed. If the DID trunks are programmed as an internal trunk-type, calls Hunt to the internal Hunt DN. If the DID trunks are programmed as an external trunk-type, calls Hunt to the external Hunt DN.

If that DN is also busy, and it is not programmed to Hunt, the system sends the DID call to the attendant using the Call Forward Busy feature.

If the Hunt DN is also busy, and it is not programmed to Hunt, the system gives the external (non-DID) calls transferred to the telephone by the attendant the usual busy treatment. Refer to the attendant console user guide for the various options which the attendant has when trying to transfer calls to busy telephones.

Call Forward by Call Type (Hunting Option)

Refer to Task 34, *Call Forward Busy* for further information on the Call Forward Busy feature.

Multiple Appearance DNs interact with Call Forward by Call Type - Hunting

Refer to the information on this interaction in Task 38, *Hunting*. When the word Hunting is used, you can substitute the words Call Forward by Call Type (Hunting Option) and the information is still correct.

Call Forward No Answer interacts with Call Forward by Call Type - Hunting

Some common examples of scenarios relating to basic Hunting and Call Forward No Answer are discussed in Task 37, *Call Forward No Answer* in the *Interactions* section. Please refer to that module.

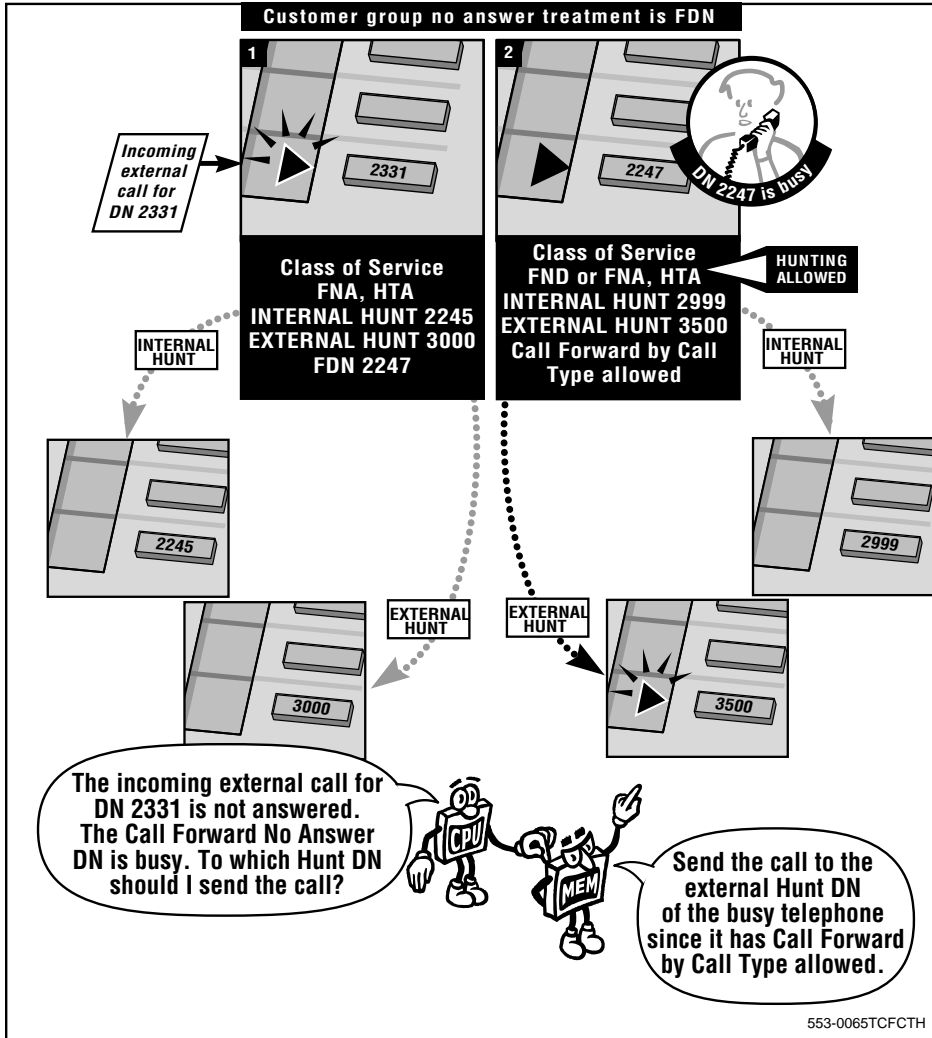
There are interactions between the Call Forward by Call Type (Hunting Option) and Call Forward No Answer features.



It is very important for proper programming and user training that you understand these interactions. It can also reduce the number of repair calls you report.

Call Forward by Call Type (Hunting Option)

Call Forward No Answer interacts with Call Forward by Call Typ

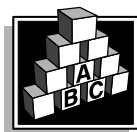


Call Forward by Call Type (Hunting Option)

Private Lines interact with Call Forward by Call Type (Hunting Option)

Trunks can be programmed to operate as Private Lines. When you program a trunk in this way, incoming calls on the trunk terminate at a certain DN that can appear on one or more than one telephone. Even though the incoming calls on this Private Line appear on a DN, you cannot program the Hunting feature or the Call Forward by Call Type - Hunting feature to operate on a Private Line DN. Even though incoming calls on the Private Line are external to the system, the Call Forward by Call Type - Hunting feature does not operate on them when the telephone is busy.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Call Party Name Display

Table 203
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

Call Forward by Call Type (Hunting Option)

The redirection codes can be up to four letters long. The default code for redirection due to the Hunting feature is the letter B. Calls which are redirected by the feature Call Forward by Call Type (Hunting Option) also display the letter B. Decide what codes will work best for your users.

These codes can be seen on telephones with displays when calls are presented to them after being redirected by features such as Hunting.

For example, you might want people to see the code BUSY on their displays when they answer calls for other telephones because those people are busy and the calls Hunted.

People can greet callers more appropriately if they know why the calls are being presented to their telephones in the first place.

Talk to your system supplier about implementing CPND or you can refer to *X11 features and services* for more information. The programming involved is beyond the scope of this book.

Hunting by Call Type

Table 204
Software requirements

Release required	Software package(s) required
10.10C	131 – International Supplementary Features (SUPP)

With this software release and software package, you can program a Class of Service for Direct-Inward-Dial (DID) telephones which allows incoming calls from DID trunks to Hunt when the telephone is busy, but gives internal callers busy tone.

Call Forward by Call Type (Hunting Option)

The following rules apply to the call processing if a DN is busy:

- ◆ if its Class of Service is Hunting allowed, then both external and internal calls Hunt, regardless of what is programmed for Call Forward Busy or Hunting by Call Type for the DID telephone
- ◆ if its Class of Service is Hunting denied and Hunting by Call Type denied, then internal calls receive busy tone. DID calls forward to the attendant if Call Forward Busy is allowed. If Call Forward Busy is denied, DID calls receive a busy tone.
- ◆ if its Class of Service is Hunting denied and Hunting by Call Type allowed, then internal calls receive busy tone. DID calls Hunt. If the Hunt DN is also busy, DID calls go to the attendant if Call Forward Busy is allowed. If the Hunt DN is also busy and Call Forward Busy is denied, DID calls receive a busy tone.

A user can change the Hunt DN using the telephone User Selectable Call Redirection (USCR)

Table 205
Software requirements

Release required	Software package(s) required
19	139 – Flexible Feature Codes

A user can modify the programming associated with the following redirection-related features:

- ◆ Call Forward No Answer (internal)
- ◆ Call Forward No Answer (external)
- ◆ Hunt (internal)
- ◆ Hunt (external)

The DN pre-programmed for these redirections can be changed by the user from the telephone.

In this module, the focus of the discussion is on the Hunting feature. The impact this has on the Call Forward No Answer feature is covered in Task 37, *Call Forward No Answer*.

Call Forward by Call Type (Hunting Option)

When you install a telephone, you must program a Hunt DN (or possibly two; one for internal calls and one for external calls, if you have allowed Call Forward by Call Type), in order for the user to be able to change it with this feature.

You enable the USCR feature in the Class of Service of the telephone.

When the redirection DN is being changed by the user, a Station Control Password is required, as a form of security. That is why the Flexible Feature Code software package is required on the system. It allows this password capability to exist.

Users can choose not to Hunt when calling a busy telephone

Call Forward/Hunt Override Via Flexible Feature Code

Table 206
Software requirements

Release required	Software package(s) required
20	139 – Flexible Feature Codes

Note: In a networking environment, you need software package 159 – Network Attendant Service

If a user calls a telephone that is busy and it is programmed to Hunt, the calling user can override the Hunting feature if the Call Forward/Hunt Override feature is enabled in the Class of Service of the calling telephone. This is useful when the caller wants to speak to the originally dialed user and does not want to leave a message or speak to anyone else.

The call does not Hunt to the Hunt DN when the call was initiated with the Flexible Feature Code (FFC) for the Call Forward/Hunt Override feature. In that case, if the called telephone is busy, the caller hears a busy tone; the call does not Hunt. The caller can queue for the busy telephone, if desired, using the Ring Again feature.

Call Forward by Call Type (Hunting Option)

The caller must be internal to the same system as the called telephone. External callers cannot use this feature. If Call Forward by Call Type (Hunting Option) is programmed on the called telephone, the internal caller can override the internal Hunt DN and hear a busy tone instead of Hunting.

In this module, the focus of the discussion is on the Hunting feature. The impact this feature has on the Call Forward No Answer feature is covered in Task 37, *Call Forward No Answer*.

For more information refer to *X11 features and services*.

External calls to a busy telephone can be redirected to an alternate DN at certain times of day

Call Redirection by Time of Day

Table 207
Software requirements

Release required	Software package(s) required
22	none

With the Call Redirection by Time of Day (CRTOD) feature, incoming external calls to a busy telephone can be automatically redirected to a predefined Directory Number at a specified time of day. You can program four Alternate Redirection time periods for each Customer Group.

This is useful for users who want their incoming external calls to redirect to alternate DNs at specified times of the day. You assign one of the Alternate Redirection time periods to the user's telephone.

The Call Redirection by Time of Day feature also applies to Call Forward No Answer, Hunting and Call Forward by Call Type (Call Forward No Answer option). Refer to the information on those features in this book.

Call Forward by Call Type (Hunting Option)

External calls to a busy telephone can be redirected to an alternate DN on certain days

Call Redirection by Day

Table 208
Software requirements

Release required	Software package(s) required
24	none

With the Call Redirection by Day (CRDAY) feature, incoming external calls can be automatically redirected to an alternate predefined Directory Number on one or more specified days of the week and/or holidays. You can program four Alternate Day Lists and four Alternate Holiday Lists for each Customer Group. Each Alternate Holiday List can contain up to 20 dates.

If a user who is busy wants external calls to be redirected to a DN that is different from the one to which calls are normally sent, on certain days and/or holidays, then you assign one of the Alternate Day Lists and/or one of the Alternate Holiday Lists to the user's telephone. You program the DNs to be used for different types of redirected calls on those days for each telephone.

The Call Redirection by Day feature also applies to Call Forward No Answer, Hunting, and Call Forward by Call Type (Call Forward No Answer option). Refer to the information on those features in this book.

Control tips



- ◆ If you have User Selectable Call Redirection in place, print the Hunt DNs that users are programming, on a regular basis. If you have a network, users might be programming DNs that are actually in other switches and this might be causing confusion to your callers. Tell users what DNs are acceptable for them to program and tell them you are doing regular printouts to check this.

Call Forward by Call Type (Hunting Option)

Administration tips



- ◆ The tips in Task 38, *Hunting* apply here as well. Refer to these for information.
- ◆ Decide which trunk groups to program as external-type and which to program as internal-type.
- ◆ Understand the types of incoming calls you get on each different trunk group. Understand how these callers react to different Hunting treatments; for example, Hunting to Voice Mail or Hunting to a secretary or Hunting to a co-worker. Find out which Hunting best serves the callers.
- ◆ If you are implementing Call Forward by Call Type (Hunting Option) so that external calls Hunt to a person and internal calls Hunt to Voice Mail, ensure that you understand how the callers will react to that. Check that you have implemented Voice Mail so that internal callers can reach a person if they want. Train the users to tell the callers, in their Voice Mail greeting, how to reach a person.
- ◆ As with basic Hunting, you must understand the Hunt chain the user is joining before you program the telephone. The person at the Hunt DN must be trained to deal with the types of calls which will Hunt to the telephone. For example, if that user will answer external calls only, you must prepare the user for that.

Training tips



- ◆ As with basic Hunting, the users must be trained to understand the Hunting patterns of the telephones and the interactions which might occur if more than one feature operates simultaneously.
- ◆ Use real examples that they might actually encounter. Demonstrate, if possible, to make the users comfortable. There will be fewer repair calls if you and your users understand the features fully.

Call Forward by Call Type (Hunting Option)

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 209
Checklist

Basic	Optional	Preparation
✓		Decide if your company-wide policies agree with Hunting internal calls differently from external calls.
✓		Decide what choices users have for Hunt DNs if you want them to treat internal and external calls differently.
✓		Decide, on a user by user basis, who needs this feature. Find out what internal and external Hunt DNs each user needs.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Decide which trunk groups to program as internal-type and which to program as external-type.
✓		Print out the Hunt chain for the Hunt group the user is joining. Make sure it is appropriate for this telephone.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same internal and external Hunt DNs for all telephones sharing the DN.
— continued —		

Call Forward by Call Type (Hunting Option)

Table 209
Checklist (Continued)

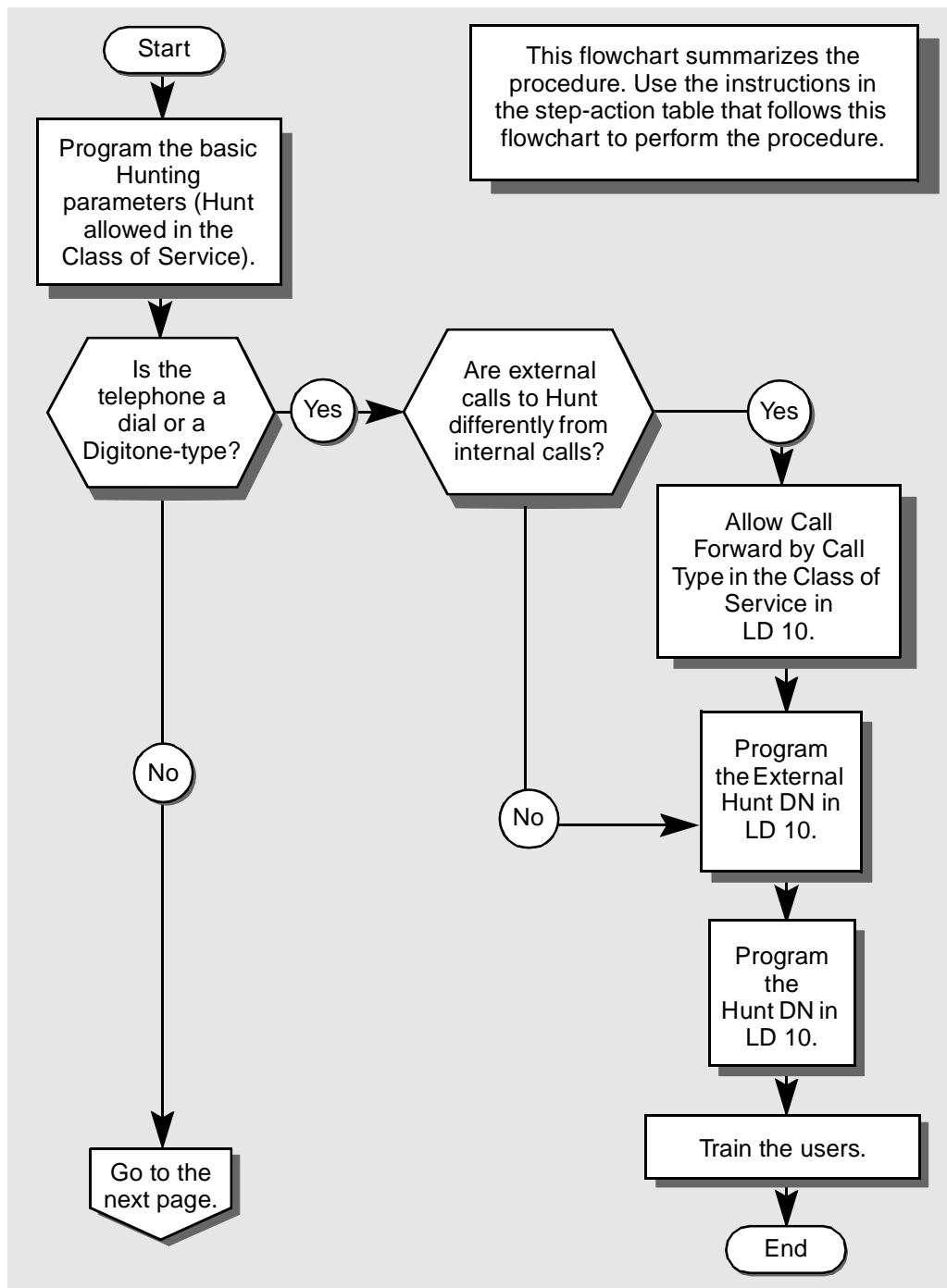
Basic	Optional	Preparation
✓		On systems with software Release 18 or later: If users must share prime DNs and require different Hunt DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
✓		Prepare your training information, and materials. Plan the way you want to address interactions.
	✓	Assign a code which will display when calls Hunt. Train the users.
	✓	Decide if the user should be able to change the Hunt DN(s) programmed for the telephone. Assign a Station Control Password. Assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user needs calls redirected to an alternate DN during a certain daily time period.
	✓	Decide if the user can use the Hunt Override capability. If so, assign a Flexible Feature Code, if there isn't one already assigned. Train the user.

What's next?

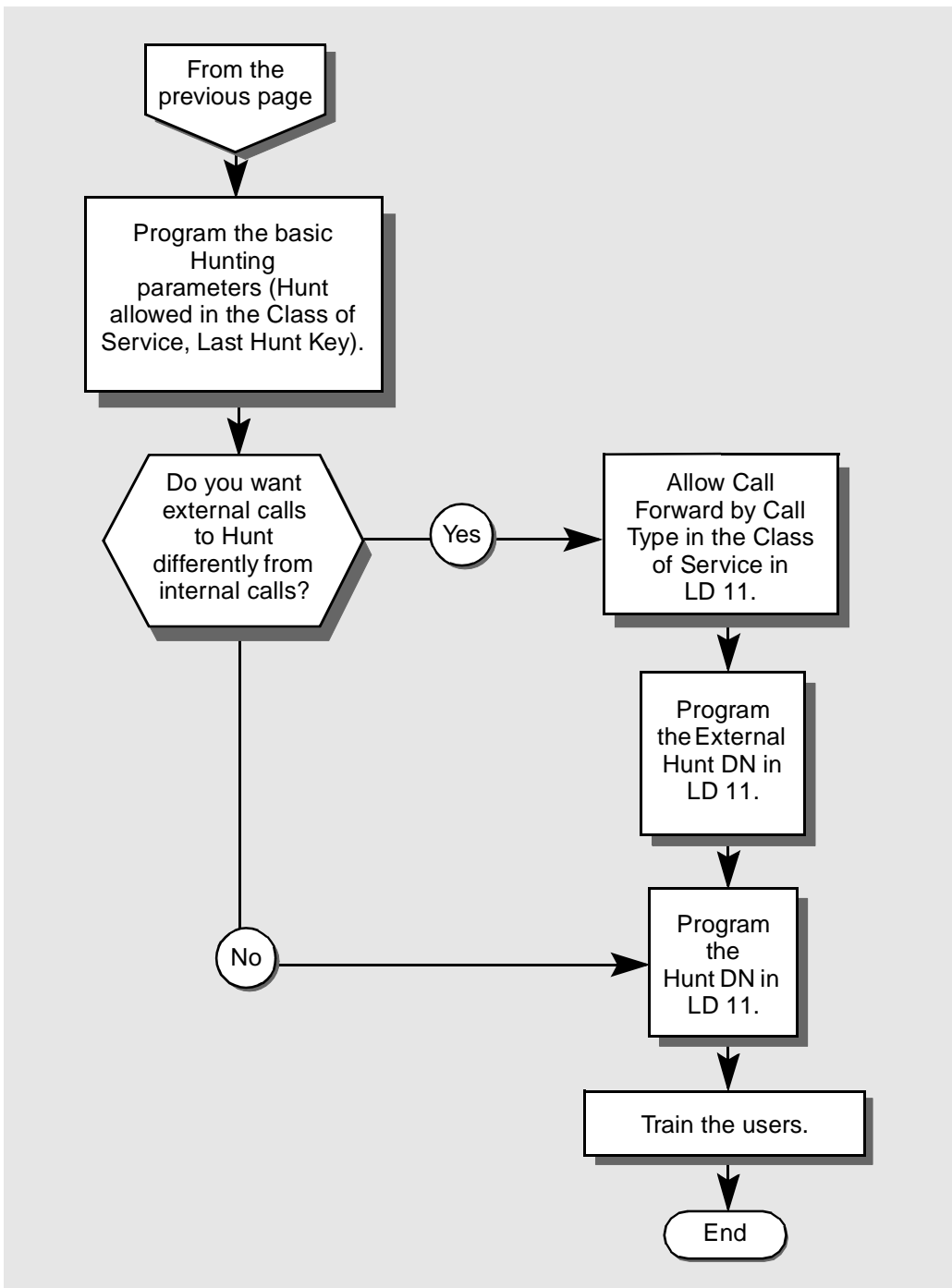
A flowchart follows which summarizes the implementation decisions and procedures for Call Forward by Call Type (Hunting Option).

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

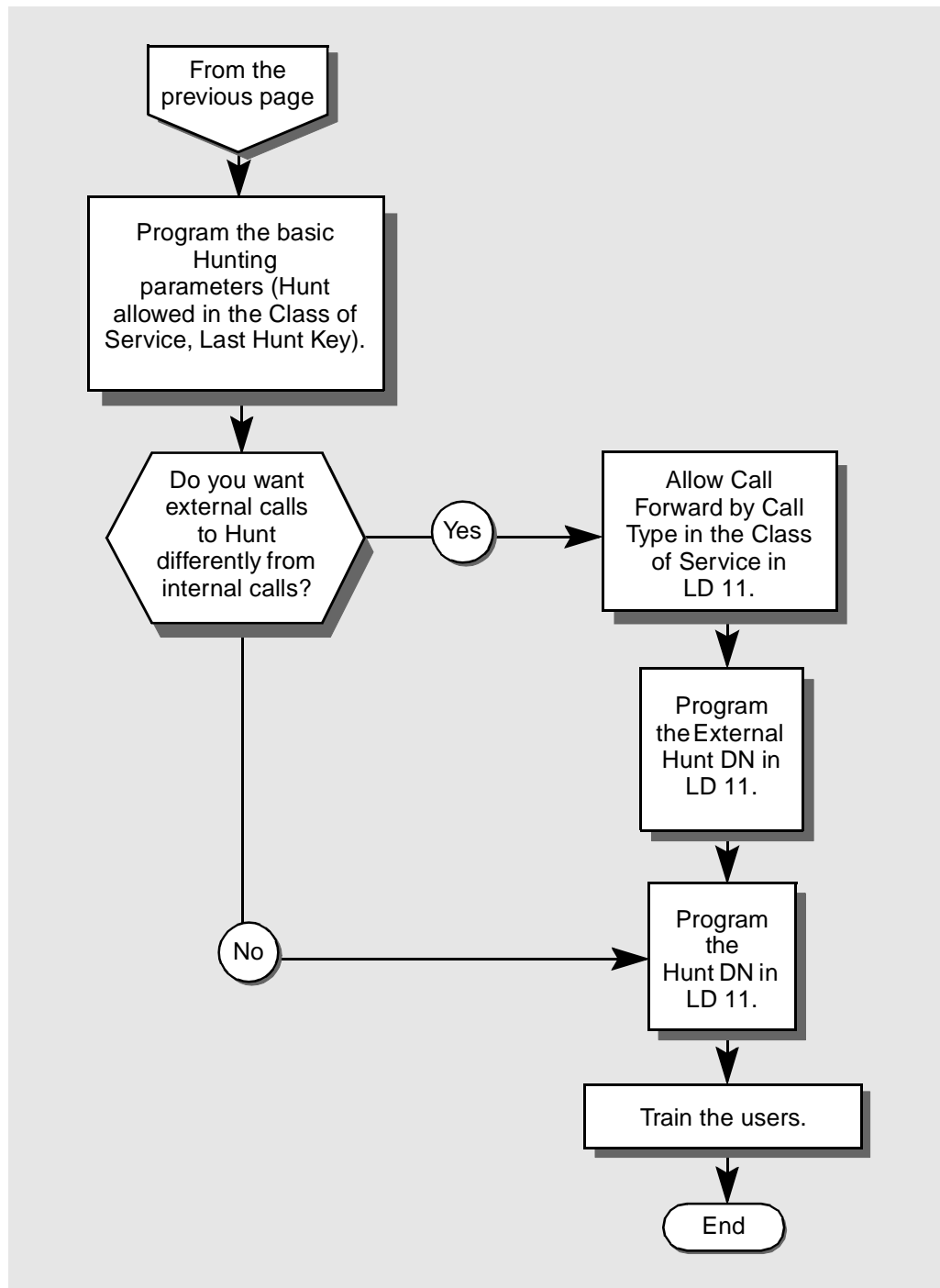
Call Forward by Call Type (Hunting Option)



Call Forward by Call Type (Hunting Option)



Call Forward by Call Type (Hunting Option)



Call Forward by Call Type (Hunting Option)

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Forward by Call Type (Hunting Option) feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	<p>Login.</p> <p>For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p>
2	<p>Check the Hunt chain this telephone is joining before you start programming.</p> <p>Use printouts to verify the Hunting which is already programmed for the internal and external Hunt DNs you want to use for this telephone. Refer to <i>Basic programming instructions</i> for more information on DNB and TNB printouts.</p> <ul style="list-style-type: none"> a For the DNs which are the Hunt DNs you want to use, do a DN Block (DNB) printout. b For the TN(s) you see in the DNB printout, do a TN Block (TNB) printout. Notice that digital telephone TNs have an “H” beside those with Hunting enabled. Look for an HTA Class of Service for other types of telephones. c For the TN(s) with Hunting enabled, look at the printout for the Hunt DN(s) they have programmed. <p>Repeat steps a, b, and c, as needed, until you have verified the entire existing Hunt chain.</p> <p style="text-align: center;">— continued —</p>

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
2 continued ...		
	<p>You can use LD 20 to print out Hunt chains. Refer to <i>Basic programming instructions</i>.</p> <p>If you have ODAS software package 20, ask your system supplier to help you use it to print out Hunt chains.</p> <p>If any Hunt DN is a Multiple Appearance DN, refer to the information on how Multiple Appearance DNs interact with Hunting, Task 38, <i>Hunting</i>.</p>	
3	Determine if the existing Hunt chain is suitable for this telephone.	
	If	Do
	
	Hunt chain is suitable	step 4
	Hunt chain is not suitable	Pick a different internal or external Hunt DN for this telephone or change the Hunting for the telephones in the Hunt chain. Go to step 8 for dial or Digitone-type telephone changes or step 20 for digital or SL-1-type telephone changes.
4	Choose your starting point from the choices below.	
	If	Do
	
	new dial or Digitone-type telephone	step 5
	change a dial or Digitone-type telephone	step 8
	new digital or SL-1-type telephone	step 19
	change a digital or SL-1-type telephone	step 20
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
5	Program a new dial or Digitone-type telephone.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number(TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt HUNT	
	If	Do
	you are allowing Call Forward by Call Type	If you are not allowing internal calls to Hunt, input the DN of this telephone, you cannot leave this response blank. If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection).
	you are not allowing Call Forward by Call Type	Input the DN to which all calls are to Hunt.
	carriage return until you see the prompt CLS	
	If	Do
	Hunting allowed and Call Forward by Call Type allowed	CFTA HTA — Go to step 6.
	Hunting allowed but Call Forward by Call Type denied	HTA (CFTD is default) — Go to step 7.
	Hunting denied but Call Forward by Call Type allowed	CFTA (HTD is default) — Go to step 6.
	— continued —	

Call Forward by Call Type (Hunting Option)

STEP	ACTION
6	Program external Hunt DN.
	carriage return until you see FTR
If	Do
you allowed Call Forward by Call Type but you are not allowing external calls to Hunt	Input EHT followed by a space and the DN of this telephone. You cannot leave this response blank. Go to step 7.
you allowed Call Forward by Call Type and external calls are to Hunt	Input EHT followed by a space and the DN to which external calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection).
7	Finish this overlay program.
	Carriage return until you see one of the following messages:
	U.data P.data small systems
	or
	MEM AVAIL: (U/P) USED:TOT: large systems
	When one of these messages appears, your change has been entered into the memory.
	Go to step 27.
— continued —	

Call Forward by Call Type (Hunting Option)

STEP ACTION

8 Program a change to the Call Forward by Call Type - Hunting feature on a dial or Digitone-type telephone.

Do a DNB and TNB printout of the telephone to see what Hunting parameters are already programmed. You might need this information later. Refer to *Basic programming instructions* in this book for further information.

> LD 10

REQ	CHG	Program a change to an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)

ECHG

If

Do

using "Easy Change"

Input YES and go to step 9.

not using "Easy Change"

Input NO or <cr> and go to step 14.

For more information on "Easy Change," go to the *Basic programming instructions* module of this book.

— continued —

Call Forward by Call Type (Hunting Option)

STEP	ACTION		
9	Program an “Easy Change” to an existing dial or Digitone-type telephone.		
	If		Do
	telephone has Hunting allowed and you are changing it to Call Forward by Call Type allowed		step 10
	telephone has Hunting allowed and you are changing to Call Forward by Call Type denied		step 11
	you want to change the internal Hunt DN or external Hunt DN or both		step 12
	you want to remove internal or external Hunt DN		step 13
10	Allow Call Forward by Call Type.		
	ITEM	CLS CFTA	Class of Service Call Forward by Call Type allowed
	ITEM	HUNT X..X	<p>Program internal calls to Hunt to a DN</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Input the DN of this telephone if internal callers are to hear a busy tone</p>
— continued —			

Call Forward by Call Type (Hunting Option)

STEP ACTION

10 continued ...

ITEM FTR EHT X..X Program Feature for external calls to Hunt to a DN

X..X represents a DN

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Input the DN of this telephone, if external callers are to hear a busy tone

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

11 Deny Call Forward by Call Type.

ITEM CLS CFTD Class of Service Call Forward by Call Type denied

ITEM HUNT X..X If existing Hunt DN is not appropriate for Hunting of all calls, input proper DN.

X..X represents a DN

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

— continued —

Call Forward by Call Type (Hunting Option)

STEP	ACTION
11 continued ...	
	<p>The system automatically removes the external Hunting programming when you deny Call Forward by Call Type.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p>
12	Change internal Hunt DN or external Hunt DN or both.
ITEM	<p>HUNT X . . X Input DN for Hunting internal calls</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Input the DN of this telephone if internal callers are to hear a busy tone</p>
— continued —	

Call Forward by Call Type (Hunting Option)

STEP ACTION

12 continued ...

ITEM FTR EHT X..X Program Feature for external calls to Hunt to a DN

X..X represents a DN

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Input the DN of this telephone if external callers are to hear a busy tone.

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

13 Remove internal Hunt DN or external Hunt DN.

You did a TNB printout of this telephone earlier. Look at it to find the Hunt DN and EHT DN.

ITEM HUNT X..X Input the DN of this telephone. You cannot leave this response blank and you cannot type X to remove the DN.

X..X represents a DN

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

— continued —

Call Forward by Call Type (Hunting Option)

STEP	ACTION
<i>13 continued ...</i>	
ITEM	<p>FTR EHT X..X Program Feature for external calls to Hunt to a DN</p> <p>X..X represents a DN</p> <p>Input the DN of this telephone. You cannot leave this response blank and you cannot type X to remove the DN.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p>
— continued —	

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
14	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.	
	If	Do
	telephone has Hunting allowed and you are changing it to Call Forward by Call Type allowed	step 15
	telephone has Hunting allowed and you are changing to Call Forward by Call Type denied	step 16
	you want to change the internal Hunt DN or external Hunt DN or both	step 17
	you want to remove internal or external Hunt DN	step 18
15	Allow Call Forward by Call Type.	
	Carriage return until you see the prompt HUNT	
	HUNT X . . X	<p>If you are not allowing internal calls to Hunt, input the DN of this telephone, you cannot leave this response blank.</p> <p>X..X represents a DN</p> <p>If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p>
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION
<i>15 continued ...</i>	
	Carriage return until you see the prompt CLS
CLS	CFTA allow Call Forward by Call Type in the Class of Service
	Carriage return until you see the prompt FTR
FTR	EHT X. .X If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank. X..X represents a DN If you are allowing external calls to Hunt, input the DN to which external calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)
	Carriage return until you see one of the following messages:
U.data P.data	small systems
	or
MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.
	Go to step 27.
— continued —	

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
16	Deny Call Forward by Call Type.	
	<p>You did a TNB printout of this telephone earlier. Look at it to find the Hunt DN and EHT DN.</p> <p>Carriage return until you see the prompt HUNT</p> <p>HUNT X . . X If the existing DN must be changed, input a DN which is appropriate for all Hunted calls when Call Forward by Call Type is denied.</p> <p style="padding-left: 150px;">X..X represents a DN</p> <p style="padding-left: 150px;">1–4 digits prior to Release 13</p> <p style="padding-left: 150px;">1–7 digits Release 13 and later</p> <p style="padding-left: 150px;">1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p style="padding-left: 100px;"><CR> If the existing DN is acceptable, carriage return</p> <p>Carriage return until you see the prompt CLS</p> <p>CLS CFTD deny Call Forward by Call Type in the Class of Service</p> <p>The system automatically removes the external Hunting programming when you deny Call Forward by Call Type.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p>	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION
17	<p>Change internal Hunt DN or external Hunt DN.</p> <p>Carriage return until you see the prompt HUNT</p> <p>HUNT X . . X If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank.</p> <p>X..X represents a DN</p> <p>If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p>Carriage return until you see the prompt FTR</p> <p>FTR EHT X . . X Program Feature for external calls to Hunt to a DN</p> <p>X..X represents a DN</p> <p>If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank.</p> <p>If you are allowing external calls to Hunt, input the DN to which external calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p> <p style="text-align: center;">— continued —</p>

Call Forward by Call Type (Hunting Option)

STEP	ACTION
18	<p>Remove internal or external Hunt DN.</p> <p>Carriage return until you see the prompt HUNT</p> <p>HUNT X . . X If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank and you cannot use X to remove the DN.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Carriage return until you see the prompt FTR</p> <p>FTR EHT X . . X Program Feature for external calls to Hunt to a DN</p> <p>X..X represents a DN</p> <p>If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank and you cannot use X to remove the DN.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p> <p style="text-align: center;">— continued —</p>

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
19	Program a new digital or SL-1-type telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	If	Do

	you are allowing Call Forward by Call Type	Input CFTA — for Call Forward by Call Type (Hunting Option), you must allow Hunting as well, input HTA. Refer to Task 38, <i>Hunting</i> .
	you are not allowing Call Forward by Call Type	Input CFTD — if you want basic Hunting, type HTA, if not, type HTD. Refer to Task 38, <i>Hunting</i> .
	carriage return until you see the prompt HUNT	
	If	Do

	you allowed Call Forward by Call Type	If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank. If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	you did not allow Call Forward by Call Type	Input the DN to which all calls are to Hunt.
	— continued —	

Call Forward by Call Type (Hunting Option)

STEP ACTION

19 continued ...

carriage return until you see the prompt EHT

If	Do
you allowed Call Forward by Call Type but you are not allowing external calls to Hunt	Input EHT followed by a space and the DN of this telephone, you cannot leave this response blank.
you allowed Call Forward by Call Type and you are allowing external calls to Hunt	Input EHT followed by a space and the DN to which external calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

— continued —

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
20	Program a change to the Call Forward by Call Type (Hunting Option) feature on a digital or SL-1-type telephone.	
	Do a DNB and TNB printout of the telephone to see what Hunting parameters are programmed. You might need this information later. Refer to <i>Basic programming instructions</i> in this book for further information.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 21.
	not using "Easy Change"	Input NO or <cr> and go to step 22.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
21	Program an “Easy Change” to an existing digital or SL-1 -type telephone.	
	If	Do

	telephone has Hunting allowed and you are changing it to Call Forward by Call Type allowed	step 10
	telephone has Hunting allowed and you are changing it to Call Forward by Call Type denied	step 11
	you want to change the internal Hunt DN or external Hunt DN or both	step 12. If you are changing a Hunting DN to Short Hunting, input the response 000 in response to the HUNT or EHT prompts. Refer to Task 38, <i>Hunting</i> .
	you want to remove internal or external Hunt DN	step 13
22	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.	
	If	Do

	telephone has Hunting allowed and you are changing it to Call Forward by Call Type allowed	step 23
	telephone has Hunting allowed and you are changing it to Call Forward by Call Type denied	step 24
	you want to change the internal Hunt DN or external Hunt DN or both	step 25
	you want to remove internal or external Hunt DN	step 26
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
23	Allow Call Forward by Call Type	
	Carriage return until you see the prompt CLS	
CLS	CFTA	allow Call Forward by Call Type in the Class of Service
	Carriage return until you see the prompt HUNT	
HUNT	X . . X	If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank. X..X represents a DN If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)
	Carriage return until you see the prompt EHT	
EHT	X . . X	If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank. X..X represents a DN If you are allowing external calls to Hunt, input the DN to which external calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)
	Go to step 27.	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
24	Deny Call Forward by Call Type.	
	<p>You did a TNB printout of this telephone earlier. Look at it to find the Hunt DN and EHT DN.</p> <p>Carriage return until you see the prompt CLS</p> <p>CLS CFTD deny Call Forward by Call Type in the Class of Service</p> <p>The system automatically removes the external Hunting programming when you deny Call Forward by Call Type.</p> <p>Carriage return until you see the prompt HUNT</p> <p>HUNT X . . X If the existing DN must be changed, input a DN which is appropriate for all Hunted calls when Call Forward by Call Type is denied.</p> <p style="padding-left: 100px;">X..X represents a DN</p> <p style="padding-left: 100px;">1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p> <p style="padding-left: 100px;"><cr> If the existing DN is acceptable, carriage return.</p> <p>Go to step 27.</p>	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
25	Change internal Hunt DN or external Hunt DN.	
	Carriage return until you see the prompt HUNT	
HUNT	X . . X	<p>If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank.</p> <p>X..X represents a DN</p> <p>Input 000 if you are changing to Short Hunting instead of Hunting to a DN.</p> <p>If you are allowing internal calls to Hunt, input the DN to which internal calls are to Hunt.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p>
	Carriage return until you see the prompt EHT	
EHT	X . . X	<p>Program Feature for external calls to Hunt to a DN</p> <p>X..X represents a DN</p> <p>If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank.</p> <p>Input 000 if you are changing to Short Hunting instead of Hunting to a DN.</p> <p>If you are allowing external calls to Hunt, input the DN to which external calls are to Hunt.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface)</p>
	Go to step 27.	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION	
26	Remove internal or external Hunt DN.	
	Carriage return until you see the prompt HUNT	
	HUNT	X . . X
		If you are not allowing internal calls to Hunt, input the DN of this telephone. You cannot leave this response blank and you cannot type X to remove the DN.
		X..X represents a DN
		1–4 digits prior to Release 13
		1–7 digits Release 13 and later
		1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Carriage return until you see the prompt EHT	
	EHT	X . . X
		Program Feature for external calls to Hunt to a DN
		X..X represents a DN
		If you are not allowing external calls to Hunt, input the DN of this telephone. You cannot leave this response blank and you cannot type X to remove the DN.
		1–4 digits prior to Release 13
		1–7 digits Release 13 and later
		1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 27.	
— continued —		

Call Forward by Call Type (Hunting Option)

STEP	ACTION						
27	Finish the overlay program.						
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p>						
28	Check that the programming which you have just done is correct.						
	<p>Place internal and external calls to the telephone when it is busy. Make sure the expected treatment happens.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 29</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 29	feature does not work properly	step 1
If	Do						
feature works properly	step 29						
feature does not work properly	step 1						
29	Arrange for a data dump to be performed.						
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 30</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 30
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 30						
— continued —							

Call Forward by Call Type (Hunting Option)

STEP ACTION

- 30 Perform a data dump to permanently store the programming you have just completed.**



CAUTION

Check your maintenance agreement before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

- 31 Verify that the dump was successful.**

TTY response:

NO GO BAD DATA

or

DATA DUMP COMPLETE

If

Do

data dump fails


Contact your system supplier.

data dump succeeds

step 32

— continued —

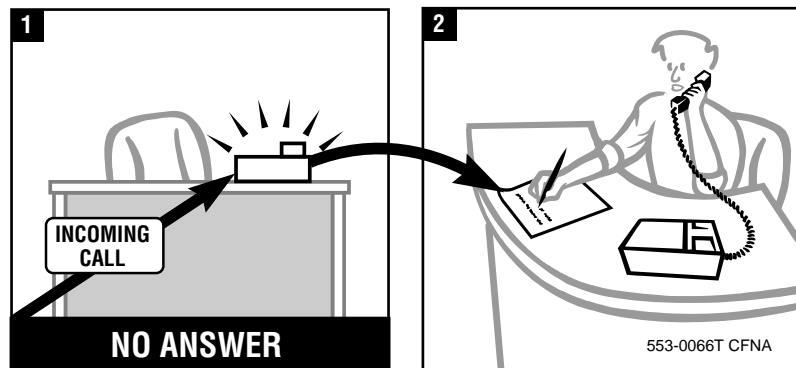
Call Forward by Call Type (Hunting Option)

STEP	ACTION
32	Terminate this overlay program. • ****
33	Terminate this programming session. Log off. > LOGO
34	You have completed the programming required to add or change the Call Forward by Call Type - Hunting feature on a telephone.
	

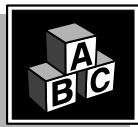
Call Forward No Answer

Purpose

When a call is not answered at a Directory Number (DN), the Call Forward No Answer feature redirects it to another place.



Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Call Forward No Answer

Setting up the feature

Call Forward No Answer comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to have the feature, then you use the procedure in this module to program each one.

Call Forward No Answer is activated in two parts:

- ◆ Customer Data Block (overlay program 15)
- ◆ telephone data blocks (overlay programs 10 or 11)

Customer Data Block (LD 15)

You must consider the following customer-wide options and arrange to have them programmed in the Customer Data Block:

- ◆ how many times a telephone rings before the call redirects to another DN
- ◆ the treatment to be given to each of the three possible *call types* which are described in the following pages

The number of times a telephone rings before forwarding is determined by a setting in LD 15. Unanswered calls forwarded by this feature are those that do not get answered within a defined number of rings.



The range you have to choose from is one to fifteen rings. Unless it is programmed otherwise, the default setting is four rings.

Prior to Release 19, there is one customer-wide choice for the number of rings. All telephones in the same customer group ring the same number of times before calls are forwarded. Refer to *Improving feature performance* in this module for information on the feature called User Selectable Call Redirection, which enhances this ringing option.

There are three Call Types for the customer group:

- ◆ DID
- ◆ internal
- ◆ external trunk (non-DID)

Call Forward No Answer

Before Release 10, there are only two call types for the customer group:

- ◆ DID
- ◆ non-DID

The treatment that occurs when calls are not answered is programmable in the Customer Data Block. The programmed treatment governs how Call Forward No Answer works when a telephone call of a particular call type is not answered.

There are four possible treatments to choose from when you program each prompt for call type in LD 15:

- ◆ If you respond NO — this allows telephones to continue to ring, calls are not forwarded.
- ◆ If you respond ATT — this allows unanswered calls to forward to the attendant(s).
- ◆ If you respond HNT — this allows unanswered calls to forward to the same DN to which calls Hunt when the telephone is busy. For more information, refer to Task 38, *Hunting*.
- ◆ If you respond FDN — this allows unanswered calls to forward to a Flexible Directory Number which can be different from, or the same as, the Hunt DN programmed for the telephone.

Call Forward No Answer

The treatments are **NO**, **ATT**, **HNT**, **FDN**

- ◆ **NO** is rarely used because people usually want the system to forward calls that are not answered. Choosing this option in LD 15 disables the Call Forward No Answer feature completely.
- ◆ **ATT** is not very common since most users want unanswered calls to be sent to another telephone before they are routed to the attendant(s). If **ATT** is chosen in LD 15, unanswered calls are routed immediately to the attendant.

A call which was transferred to a telephone by an attendant is returned to an attendant by the Attendant Recall feature if the telephone is not answered. The recall only occurs after the Call Forward No Answer feature has been allowed to work. If the call is still unanswered, it recalls.

Internal calls and DID calls do not Recall, since they are not calls transferred by the attendant. These calls are redirected by the Call Forward No Answer treatment specified for them in LD 15.

- ◆ **HNT** means that if you can program a Hunt DN for each telephone, the system sends calls which are either Hunting or forwarding to the Hunt DN.

HNT cannot be programmed in LD 15 if any users require a DN for Hunting and a different DN for Call Forward No Answer.

- ◆ **FDN** is the most flexible. Every telephone with Hunting and Call Forward No Answer allowed must be programmed for a Hunt DN and a Call Forward No Answer Flexible DN. This is true, even for telephones where the same DN is used for both types of redirection.



Call Forward No Answer

Call Types and treatments working together

Table 210

Example 1

LD 15 call type	LD 15 treatment	Result
DID	ATT	unanswered DID calls go to attendant
external	FDN	unanswered external calls go to the Call Forward No Answer DN for each telephone and then back to attendant
internal	FDN	unanswered internal calls go to the Call Forward No Answer DN for each telephone

Table 211

Example 2

LD 15 call type	LD 15 treatment	Result
DID	HNT	unanswered DID calls go to the Hunt DN for each telephone
external	HNT	unanswered external calls go to the Hunt DN for each telephone and then back to attendant
internal	HNT	unanswered internal calls go to the Hunt DN for each telephone

Telephone set programming

You enable the Call Forward No Answer feature in the Class of Service of the telephone. FNA is the mnemonic for Call Forward No Answer allowed. FND is the mnemonic for Call Forward No Answer denied.

If you programmed the treatments HNT or FDN in LD 15, for each telephone with the feature enabled in the Class of Service (FNA), you must program the DN to which unanswered calls are to go.

Call Forward No Answer

Using the feature

Refer to the illustrations and text prior to this section for information on the use of this feature.

Interactions with other features

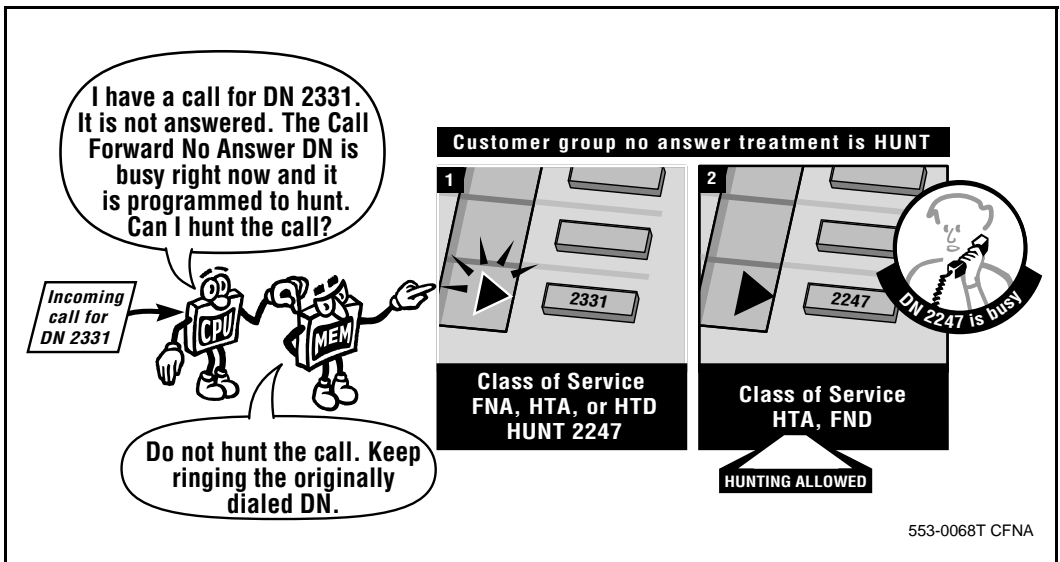
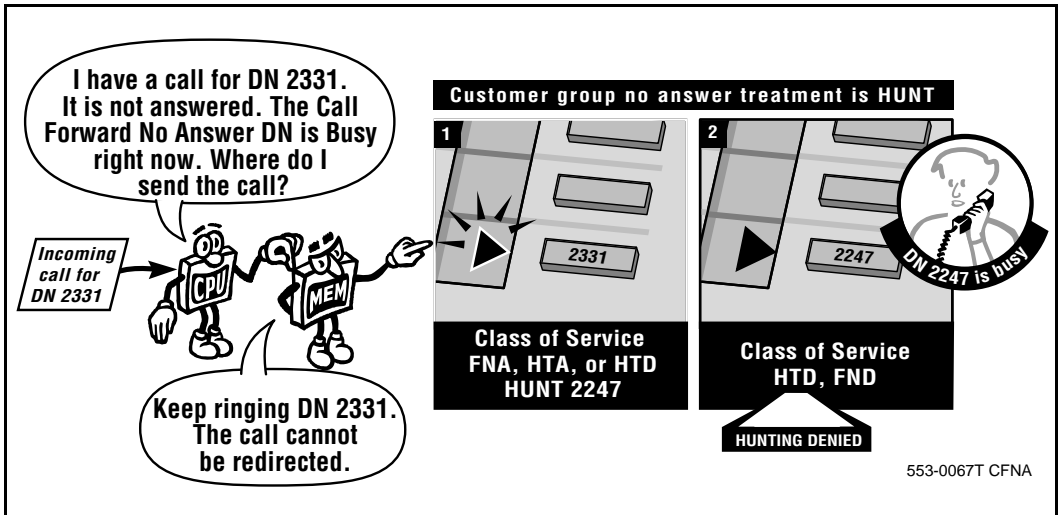
The Call Forward No Answer feature works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as repair problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Call Forward No Answer

Hunting interacts with Call Forward No Answer

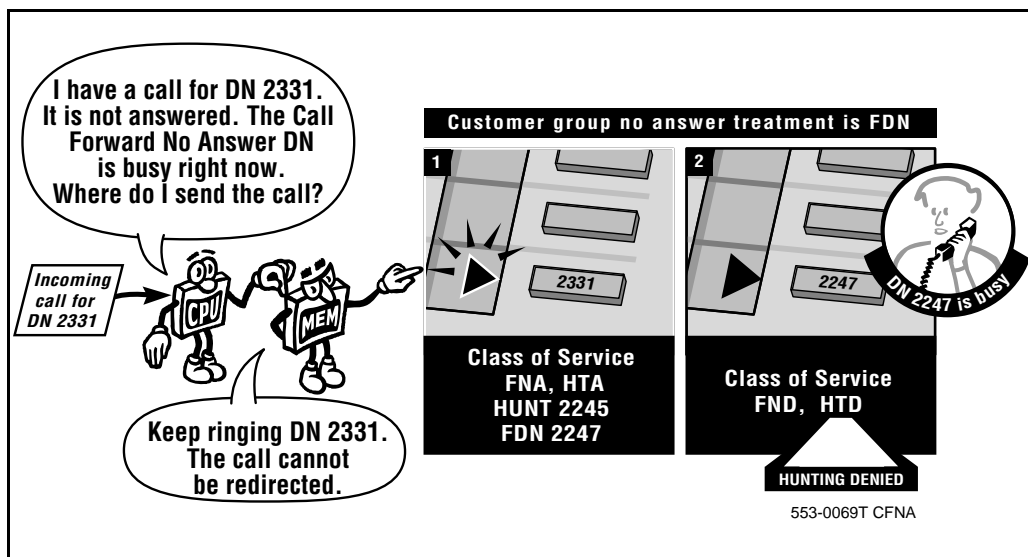
The originally dialed DN is not answered and the backup DN is busy.



Call Forward No Answer

Hunting interacts with Call Forward No Answer

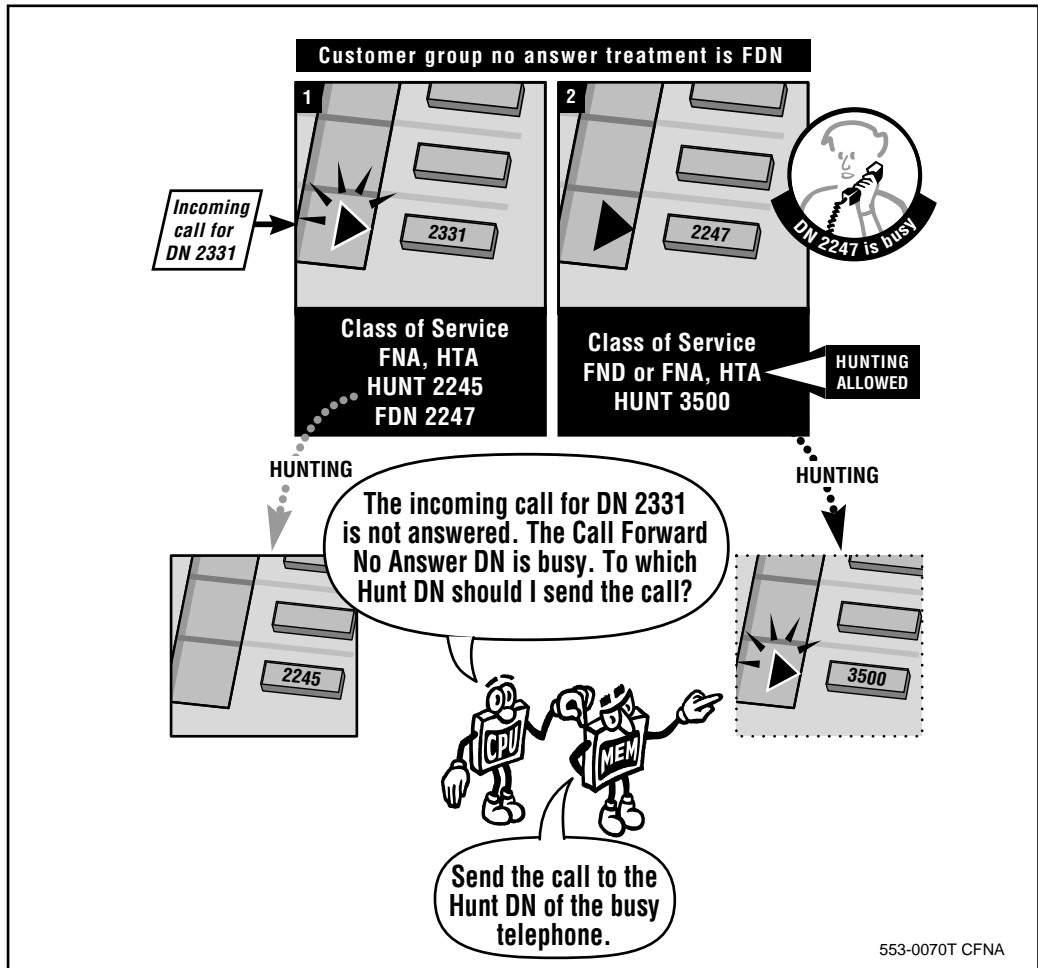
The originally dialed DN is not answered and the backup DN is busy.



Call Forward No Answer

Hunting interacts with Call Forward No Answer

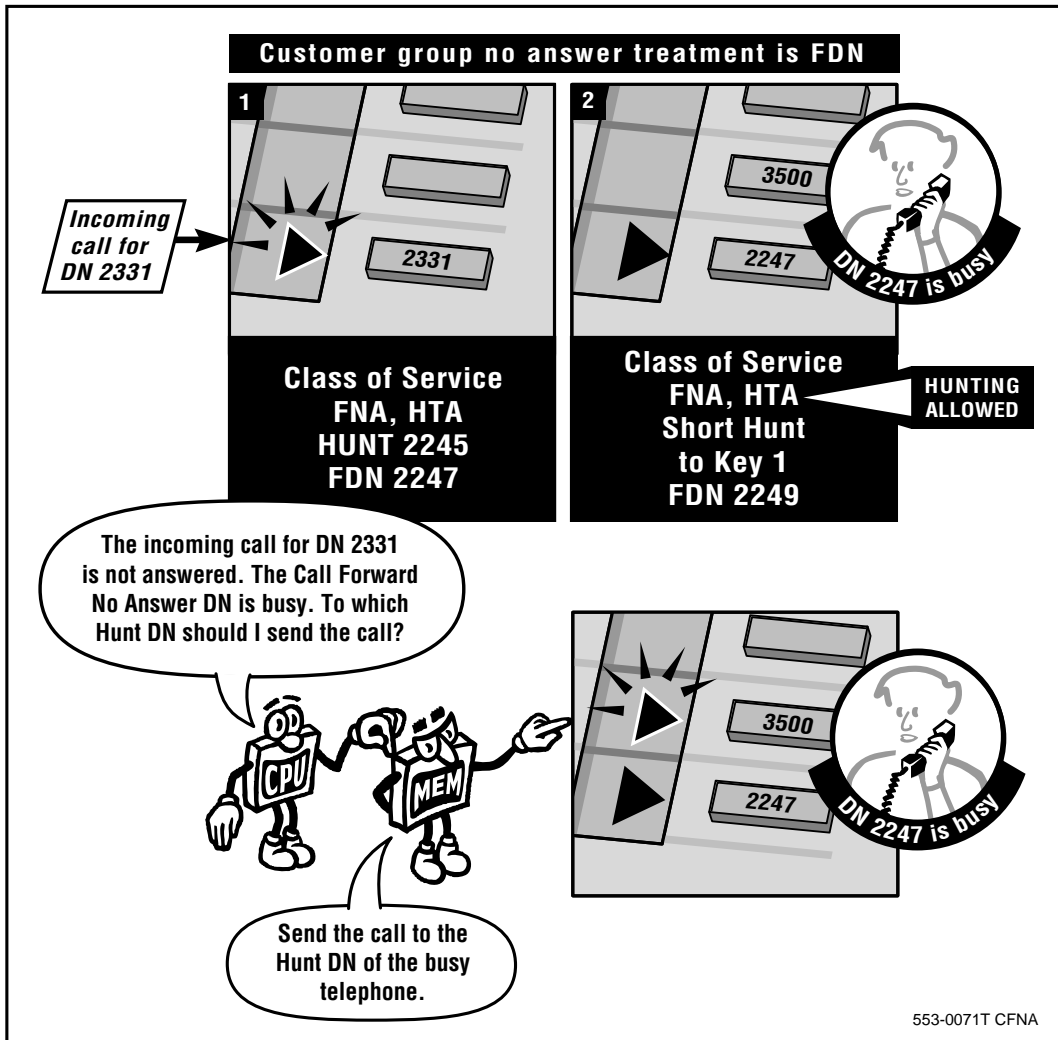
The originally dialed DN is not answered and the backup DN is busy.



Call Forward No Answer

Hunting interacts with Call Forward No Answer

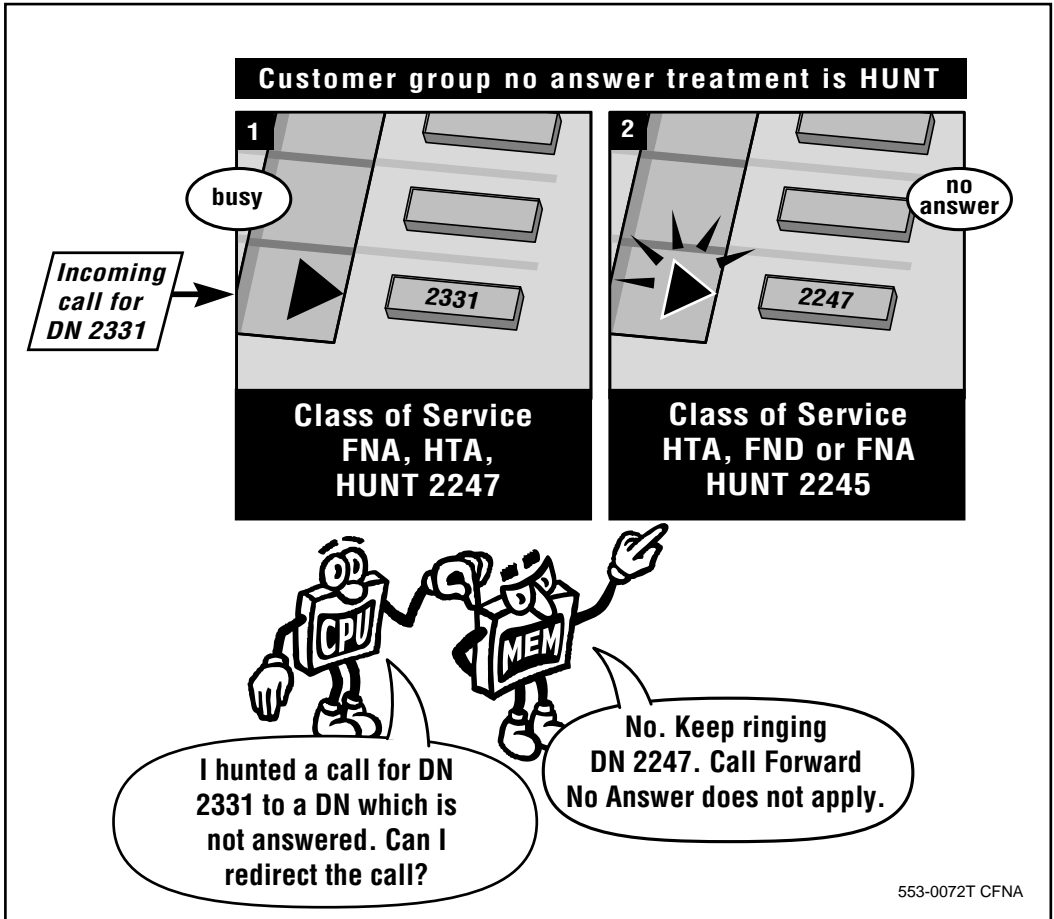
The originally dialed DN is not answered and the backup (Forward No Answer) DN is busy.



Call Forward No Answer

Hunting interacts with Call Forward No Answer

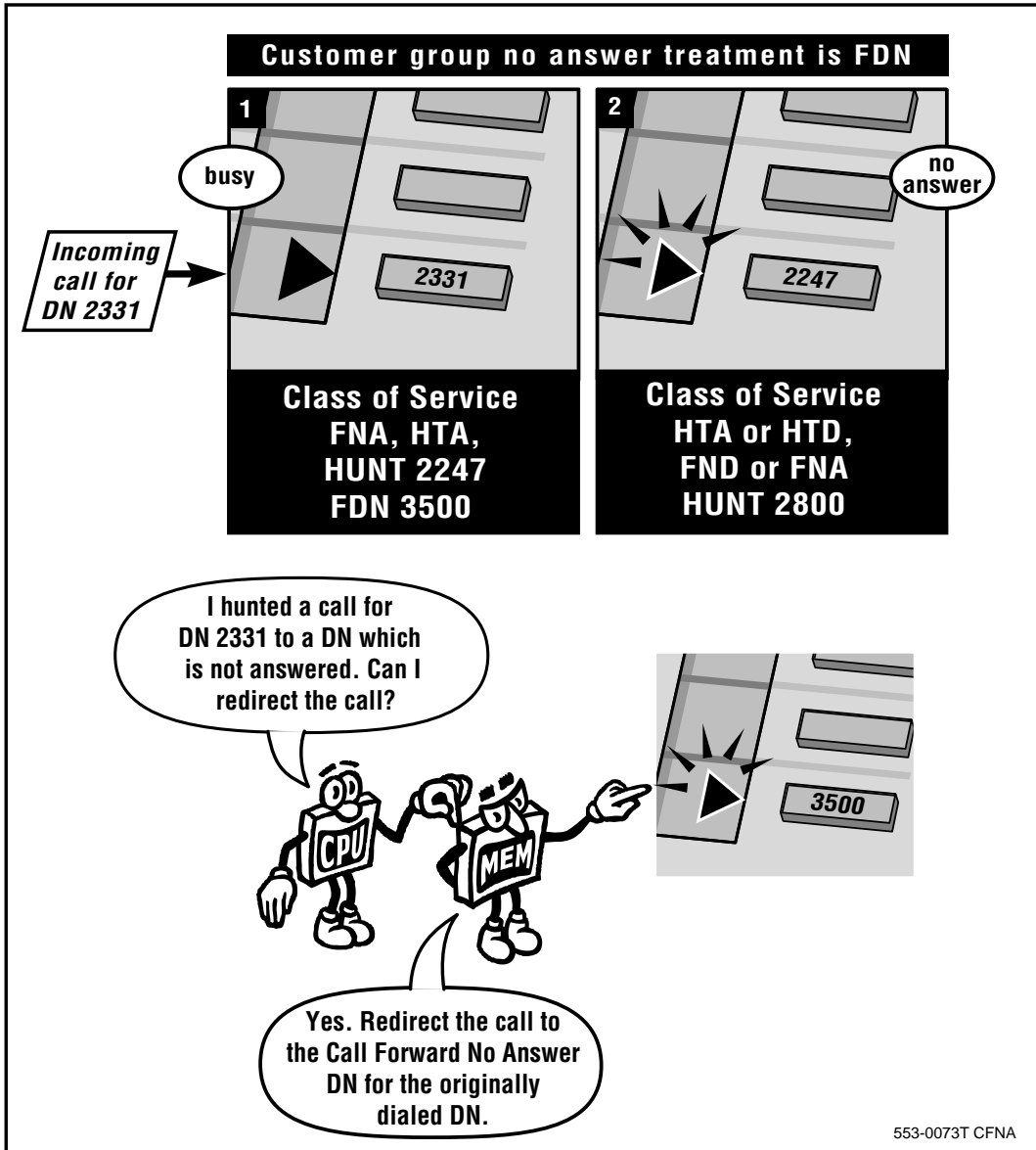
The originally dialed DN is busy and the Hunt DN is not answered.



Call Forward No Answer

Hunting interacts with Call Forward No Answer

The originally dialed DN is busy and the Hunt DN is not answered.



Call Forward No Answer

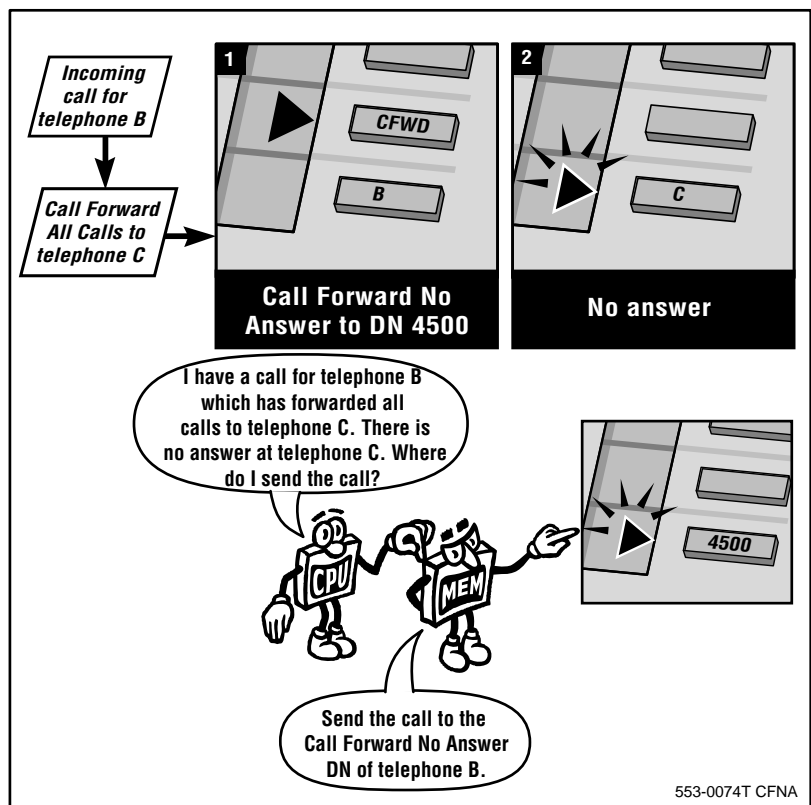
Call Forward All Calls interacts with Call Forward No Answer

When a user activates the Call Forward All Calls feature, incoming calls are redirected to the Call Forward All Calls destination manually input by the user at the telephone. Incoming calls do not ring the telephone when Call Forward All Calls is active.

The following example illustrates another way the two features interact.



User A calls telephone B. Telephone B is in Call Forward All Calls mode, redirecting calls to telephone C. If user C does not answer, *the call redirects to the Call Forward No Answer DN of telephone B, since that was the originally dialed DN. If telephone C is the Call Forward No Answer DN of telephone B, then telephone C continues to ring and does not forward, even if Second Level Call Forward No Answer is allowed.*



Call Forward No Answer

Shared (Multiple Appearance) DNs interact with Call Forward No Answer

If the same DN appears on more than one telephone or key it is called a *Multiple Appearance DN*.

There might be situations where several telephones share the same DN but they each have a different Call Forward No Answer DN programmed. When that shared DN rings and no one answers, the system must use a rule to determine where to divert calls. The systems are designed to operate as outlined in the text that follows.

Prior to Release 18 the system used the sequence of telephones in a DN Block to determine which telephone would control the Call Forward No Answer feature in a Multiple Appearance DN situation.

The programming associated with telephones that share a DN can be printed out in what is called the DN Block (DNB). The TNs of the telephones which share a particular DN are listed. Refer to *Basic programming instructions* for information on printing a DN Block.

The order of the telephones on this printout relative to each other is very important in redirection related situations like Call Forward No Answer.

In a shared DN situation, the telephone that controls the Call Forward No Answer feature for the shared DN is the telephone that has the shared DN as its prime DN (in other words, the DN is programmed on key 0), and the one with the TN which is nearest to the top of the DNB printout. If there are no prime appearances of the DN on any of the telephones, the Call Forward No Answer DN for that DN when it is not answered is determined by whatever is programmed for the telephone at the bottom of the DNB.

The sequence of the TNs in the list is re-arranged every time a programming change is made to one of the telephones. Also, if the system reloads (SYSLOAD) the sequence changes. Therefore, on systems using software prior to Release 18, it can be difficult to predict how Call Forward No Answer will actually operate. This is especially true if Service Changes are being done fairly often to the telephones which share DNs and the telephones are not programmed to forward calls to the same DN.

Call Forward No Answer



To avoid this confusion, when the same DN appears on more than one telephone, you should try to program them all to forward on a no answer condition to the same DN.

With Release 18 and later software you can choose a Multiple Appearance Redirection Prime (MARP) telephone for each shared DN. You designate the prime telephone, or Terminal Number (TN), which will control the Call Forward No Answer feature on the Multiple Appearance DN. When the shared DN is ringing no answer, the system uses the Call Forward No Answer DN, which you programmed for the designated MARP TN, in order to forward the call. The forwarding occurs in a predictable, consistent fashion, unaffected by Service Changes and SYSLOADS, which affected Call Forward No Answer on earlier software releases. For more information on MARP programming refer to Task 40, *Multiple Appearance DN Redirection Prime*.

If the MARP feature is disabled on a system, the Call Forward No Answer feature operates for Multiple Appearance DNs using the DN-Block procedure like a pre-Release 18 system.

Private Lines interact with Call Forward No Answer

Trunks can be programmed to operate as Private Lines. When you program a trunk in this way, incoming calls on the trunk are programmed to terminate at a certain DN. This DN can appear on one, or more telephones. Even though the incoming calls on this Private Line ring at a DN, many features that normally operate on a DN do not apply to Private Line DNs. One of these is Call Forward No Answer. This feature will not operate on that DN when it is not answered. Call Forward No Answer only operates on the DNs on a telephone which are not programmed as Private Line DNs.

Call Forward No Answer

Improving feature performance



The subsections that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Call Party Name Display

Table 212
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display (CPND)

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

The redirection codes can be up to four letters long. The default code for redirection by the Call Forward No Answer feature is the letter N. Decide what codes will work best for your users.

These codes can be seen on telephones with displays when calls are presented to them after being redirected by features such as Call Forward No Answer.

For example, you might want people to see the code CFNA on their displays when they answer calls for other telephones because those users did not answer and the calls were forwarded.

People can greet the caller more appropriately if they know why the calls are being presented to their telephones in the first place.

Call Forward No Answer

Talk to your system supplier about implementing Call Party Name Display or you can refer to *X11 features and services* for more information. The programming involved is beyond the scope of this book.

DID calls can ring at a telephone and then forward to the attendant

Direct Inward Dialing Call Forward No Answer Timer

With Release 16.87G, you can program a timer defined in terms of the number of rings, that applies to unanswered DID calls. This timer is called the Direct Inward Dialing Call Forward No Answer Timer (DFNR). It must be enabled at the Customer Data Block level. When a call rings no answer, the Call Forward No Answer feature redirects the call, and then if there is still no answer, the call is redirected to the attendant after the specified number of rings. There is a maximum of two Call Forward No Answer steps for this feature to operate. Therefore the feature called Second Level Call Forward No Answer conflicts with this.

For the feature DFNR Timer to work, the Customer Data Block *must* be programmed for Call Forward No Answer DID call treatments with a HNT response or FDN response.

Treat internal calls differently from external calls when they are not answered

Call Forward by Call Type (Call Forward No Answer Option)

This feature is included in the operation of a feature called Call Forward by Call Type. Look it up in *X11 features and services* using that name. A more complete and descriptive name for this software would be Call Forward No Answer and Hunting by Call Type, which would more accurately describe its function.

Table 213
Software requirements

Release required	Software package(s) required
10	none

Call Forward No Answer

This feature enhancement provides the capability to forward an internal call to a Call Forward No Answer DN different from the DN used for an external call when the DN is not answered.

For the purposes of this feature, internal calls are defined as:

- ◆ telephone to telephone calls
- ◆ incoming calls from Direct Inward System Access (DISA) DNs
- ◆ incoming calls from trunk groups identified as *internal-type* in the programming of their Route Data Blocks

To enable this capability, you allow Call Forward No Answer and Call Forward by Call Type in the Class of Service of a telephone. You program a Call Forward No Answer DN for internal calls and a Call Forward No Answer DN for external calls to that telephone. For more information, refer to Task 35, *Call Forward by Call Type (Call Forward No Answer Option)*.

An unanswered call can forward twice

Second Level Forward No Answer

Table 214
Software requirements

Release required	Software package(s) required
10	none

When an incoming call is not answered, it redirects to the Call Forward No Answer DN programmed at the originally dialed DN. The Call Forward No Answer DN might also ring no answer. If it is programmed with Call Forward No Answer and Second Level Forward No Answer allowed in its Class of Service, the call redirects a second time. The call redirects to the Call Forward No Answer DN programmed at the second telephone.

Call Forward No Answer

After two Call Forward No Answer steps, a call can:

- ◆ recall to an attendant, if the call was originally extended by an attendant
- ◆ continue to ring until it is answered, if it is not an attendant-extended call
- ◆ stop ringing, if the caller hangs up

There is a maximum of two Call Forward No Answer steps per call.

For more information, refer to Task 41, *Second Level Call Forward No Answer*.

A user can change the Call Forward No Answer DN using the telephone

User Selectable Call Redirection (USCR))

Table 215
Software requirements

Release required	Software package(s) required
19	139 — Flexible Feature Codes (FFC)

Ringling Cycle Options are part of the USCR feature.

Basic Call Forward No Answer has only one setting in the Customer Data Block (LD 15), for the number of times a telephone will ring before a call forwards. The setting affects all telephones in that customer group.

With the USCR feature, you can program three different Ringling Cycle Options in LD 15. Designated users can choose from these three ringing options to suit their individual needs. For each option the range is one to fifteen rings and the default for each option is four rings.

When you initially program each telephone, you assign it a Ringling Cycle Option. If you do not set it otherwise, Option 0 is entered by default. This option determines the number of times that telephone rings before Call Forward No Answer occurs.

Call Forward No Answer

The user can select another ringing option later as long as the User Selectable Call Redirection option has been allowed in their Class of Service and that user has been given a Station Control Password.

Reprogramming redirection DNs is another part of the USCR feature.

A user can modify the DN for the following redirection-related features:

- ◆ Call Forward No Answer
- ◆ Hunting

If the telephone has Call Forward by Call Type allowed in the Class of Service, the user can change the DNs for the two features just listed as well as for the following two additional features:

- ◆ External Call Forward No Answer
- ◆ External Hunting

When you install a telephone, you must program a Call Forward No Answer DN (or possibly two different ones for internal calls and external calls) in order for the user to be able to change it with this feature.

For more information, refer to Task 42, *User Selectable Call Redirection*.

Set Based Administration Enhancements

If your system is equipped with this capability and you know the proper Flexible Feature Code and password, you can go to a telephone programmed for Administrator Access and change the Call Forward No Answer DN for any telephone in the customer group. Depending on the treatment activated in the Customer Data Block, this might mean you change the Hunt DN and External Hunt DN (if one is programmed) or the Call Forward No Answer DN and the External Call Forward No Answer DN (if one is programmed).

This method might be quicker and easier than using a TTY to make the change(s).

Call Forward No Answer

You can control the use of this capability by limiting the number of people who know the Flexible Feature Code and password.

Users can choose not to forward when calling an unanswered telephone

Call Forward/Hunt Override Via Flexible Feature Code (FFC)

Table 216
Software requirements

Release required	Software package(s) required
20	139 — Flexible Feature Codes (FFC)

Note: in a networking environment, you need software package 159 — Network Attendant Service

If a calling telephone has the Call Forward/Hunt Override feature enabled in its Class of Service, it can override the Call Forward No Answer feature programmed on the called telephone.

To use the Call Forward No Answer Override, the user initiates a call using a Flexible Feature Code (FFC) assigned for that purpose. If the called telephone is idle, it rings. Call Forward No Answer does not occur, the telephone rings until it is answered or the caller hangs up.

A call to a busy telephone does not Hunt if the call was initiated with the FFC for the override feature. The caller hears a busy tone. The caller can choose to queue for the busy telephone by using the Ring Again feature. For more information, refer to Task 38, *Hunting*.

Call Forward No Answer

Unanswered calls can be redirected to an alternate DN at certain times of day

Call Redirection by Time of Day

Table 217
Software requirements

Release required	Software package(s) required
22	none

With the Call Redirection by Time of Day (CRTOD) feature, incoming unanswered calls can be automatically redirected to a predefined Directory Number at a specified time of day. You can program four Alternate Redirection time periods for each Customer Group.

This is useful for users who want their unanswered calls to redirect to alternate DNs at specified times of the day. You assign one of the Alternate Redirection time periods to the user's telephone.

The Call Redirection by Time of Day feature also applies to Hunting and both of the Call Forward by Call Type options. Refer to the information on those features in this book.

Unanswered calls can be redirected to an alternate DN on certain days

Call Redirection by Day

Table 218
Software requirements

Release required	Software package(s) required
24	none

With the Call Redirection by Day (CRDAY) feature, incoming unanswered calls can be automatically redirected to an alternate predefined Directory Number on one or more specified days of the

Call Forward No Answer

week and/or holidays. You can program four Alternate Day Lists and four Alternate Holiday Lists for each Customer Group. Each Alternate Holiday List can contain up to 20 dates.

If a user wants their unanswered calls to be redirected to a DN that is different from the one to which calls are normally sent, on certain days and/or holidays, then you assign one of the Alternate Day Lists and/or one of the Alternate Holiday Lists to the user's telephone. You program the DNs to be used for different types of redirected calls on those days for each telephone.

The Call Redirection by Day feature also applies to Hunting and both of the Call Forward by Call Type options. Refer to the information on those features in this book.

Control tips



- ◆ You might want to control the number of telephones or the types of users who can use the Second Level Call Forward No Answer capability. Many callers do not want to wait while the call rings several times before being answered.
- ◆ With USCR implemented you might find it useful to do printouts on a regular basis and find out what DNs people are entering for Call Forward No Answer DNs. You might need to set policies on the acceptable DNs for users to choose. If you have a network, users might be programming DNs which are actually in other switches and this might be causing confusion to your callers.

Call Forward No Answer

Administration tips



- ◆ For convenient programming of telephones, choose HNT in LD 15 in response to the prompts for call types. If you choose this, you program a Hunt DN for each telephone instead of a Hunt DN and a Call Forward No Answer DN; the two features Hunting and Call Forward No Answer use the same DN. This saves time in programming but it is not a very flexible choice.
- ◆ For flexibility, choose FDN in LD 15 in response to the prompts for call types there. This choice results in more time spent programming, but it provides users with more choices for Hunt DNs and Call Forward No Answer DNs.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Tell the users sharing a prime DN which DN will receive calls when the shared DN is not answered.
- ◆ Tell users about how Call Forward No Answer interacts with other features they might use. In order to reduce the number of false repair calls reported and improve user efficiency.
- ◆ If you are implementing Call Forward/Hunt Override Via Flexible Feature Code, tell users that telephones might continue to ring without forwarding if the caller is using this feature. They must know about this so they won't report this as a repair problem.
- ◆ If you are using the Call Redirection codes, users with displays must understand what the codes mean and how this might impact the way they answer calls. If you have policies on what you want them to say if someone is busy or not answering, let them know this in training sessions.

Call Forward No Answer

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 219
Checklist

Basic	Optional	Preparation
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Verify the number of rings for the Call Forward No Answer setting in LD 15.
✓		Verify the treatments for the call types programmed in LD 15.
✓		Find out the DN the user wants for Call Forward No Answer.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same Call Forward No Answer DN for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs and require different Call Forward No Answer DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
	✓	Prepare your training information, and materials. Plan the way you want to address interactions.
	✓	Ask the user if internal calls are to have a different Call Forward No Answer DN from external calls. Decide what DNs to use.
— continued —		

Call Forward No Answer

Table 219
Checklist (Continued)

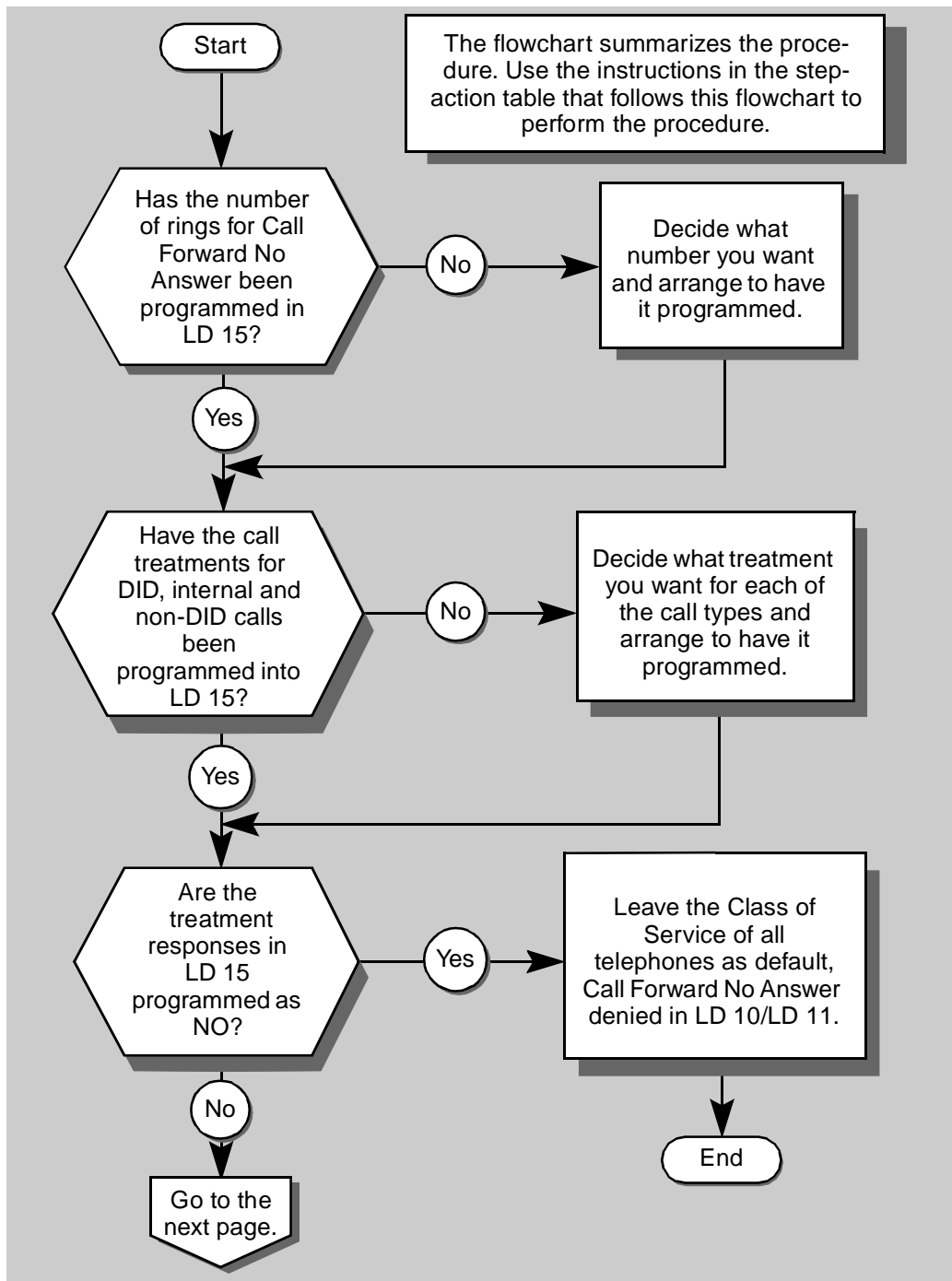
Basic	Optional	Preparation
	✓	Assign a code which will display when calls forward. Train the users.
	✓	Decide if the user should be able to change the Call Forward No Answer DN(s) programmed for the telephone. Select the three Ringing Cycle Options. Assign a Station Control Password. Assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user can use the Hunt Override capability. If so, assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user needs calls redirected to an alternate DN during a certain daily time period.
	✓	With DID telephones, decide whether you want the DFNR timer.
	✓	Decide if user needs Second Level Call Forward No Answer.

What's next?

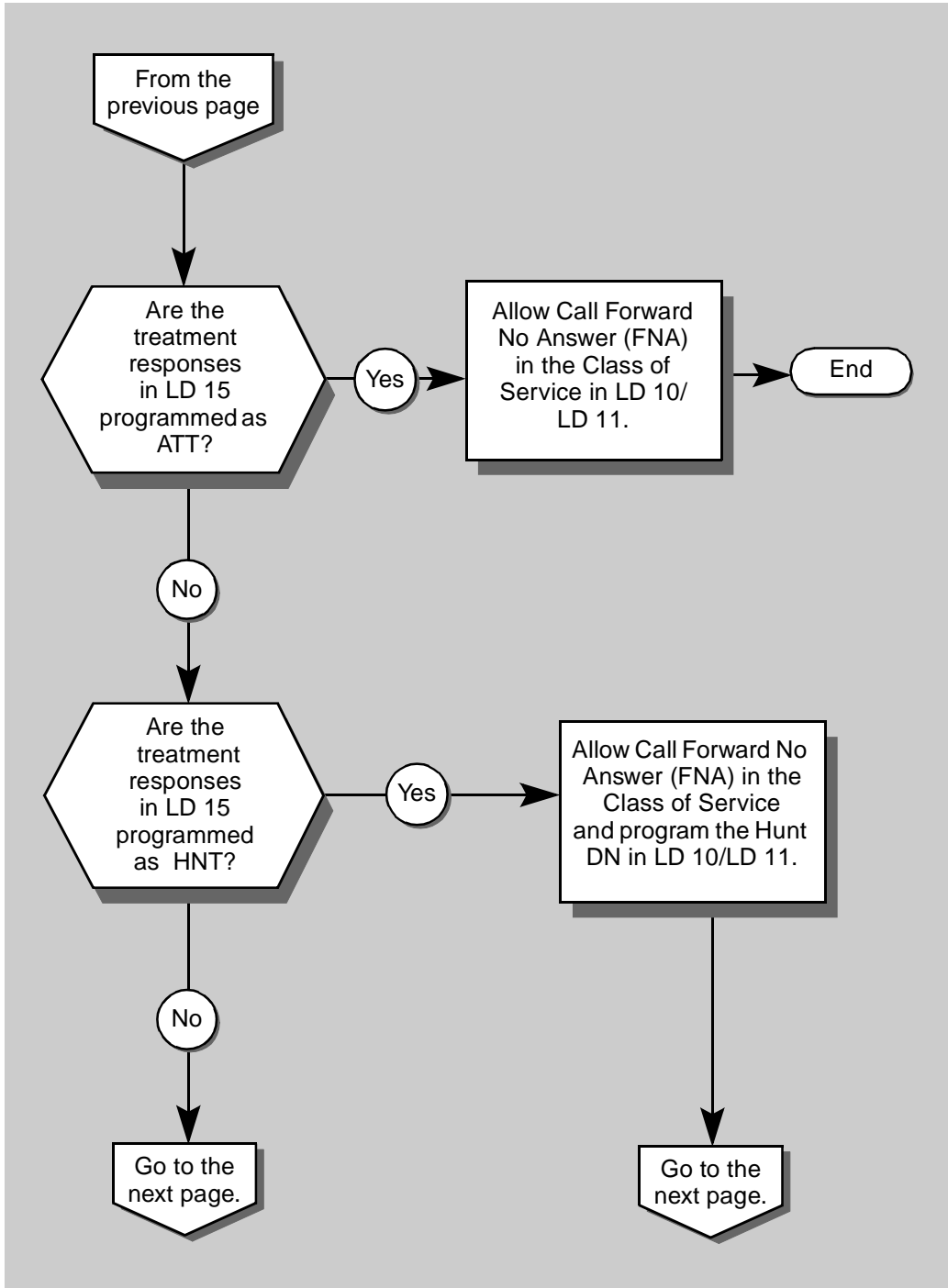
A flowchart follows which summarizes the implementation decisions and procedures for Call Forward No Answer.

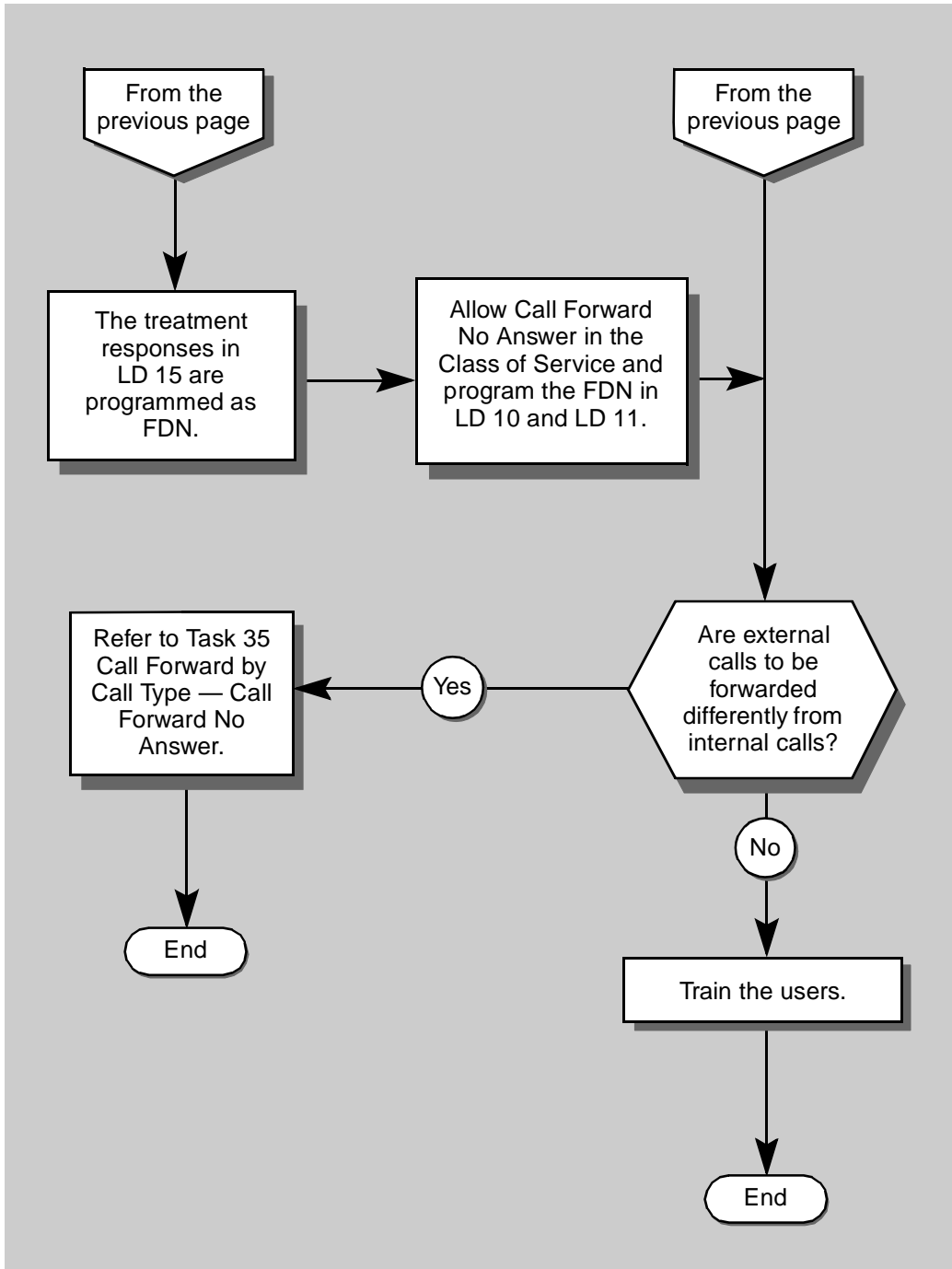
A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Call Forward No Answer



Call Forward No Answer



Call Forward No Answer

Call Forward No Answer

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Call Forward No Answer feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION	
1 Choose your starting point from the choices below.	
If	Do
new telephone	step 2
change to an existing telephone	step 12
2 Check that the number of rings for a “no answer” has been programmed.	
The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.	
If	Do
not programmed	Ask your system supplier to program it. Go to step 3.
programmed	step 3
— continued —	

Call Forward No Answer

STEP	ACTION										
3	<p>Check that the call treatments for all call types on your system have been programmed.</p> <p>The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>not programmed</td> <td>Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call type. Go to step 4.</td> </tr> <tr> <td>programmed</td> <td>step 4</td> </tr> </tbody> </table>	If	Do	not programmed	Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call type. Go to step 4.	programmed	step 4				
If	Do										
not programmed	Decide what treatments (NO, ATT, HNT, or FDN) suit your needs best and ask your system supplier to program a treatment for each call type. Go to step 4.										
programmed	step 4										
4	<p>Choose your next step from the choices below.</p> <p>The treatments programmed in LD 15 affect what, if any, programming you must do in LD 10 and LD 11, the telephone overlay programs.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>treatments are NO</td> <td>Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.</td> </tr> <tr> <td>treatments are ATT</td> <td>step 5</td> </tr> <tr> <td>treatments are HNT</td> <td>step 6</td> </tr> <tr> <td>treatments are FDN</td> <td>step 7</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	treatments are NO	Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.	treatments are ATT	step 5	treatments are HNT	step 6	treatments are FDN	step 7
If	Do										
treatments are NO	Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Your task is complete.										
treatments are ATT	step 5										
treatments are HNT	step 6										
treatments are FDN	step 7										

Call Forward No Answer

STEP	ACTION	
5	Program the new telephone so all unanswered calls forward to the attendant(s).	
	<p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.</p> <p>> LD 10 or > LD 11</p>	
	REQ	NEW Program a new telephone
	TYPE	Input correct type of 500, or digital, or SL-1-type telephone
	TN	L S C U Input the Terminal Number of the telephone program the basics... Refer to Tasks 1–19 for information.
		carriage return until you see the prompt CLS
	CLS	FNA Call Forward No Answer allowed
	Go to step 45.	
6	Program the new telephone so all unanswered calls forward to the Hunt DN.	
	<p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p>	
	If	Do

	telephone is dial or Digitone-type	step 7
	telephone is digital or SL-1-type	step 8
	— continued —	

Call Forward No Answer

STEP	ACTION	
7	Program the new dial or Digitone-type telephone so all unanswered calls forward to the Hunt DN.	
	> LD 10	
	REQ	NEW Program a new telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt HUNT	
	HUNT	X . . X Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
	CLS	FNA Call Forward No Answer allowed
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION	
8	Program the new digital or SL-1-type telephone so all unanswered calls forward to the Hunt DN.	
	> LD 11	
	REQ	NEW Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	CLS	FNA Call Forward No Answer allowed
	carriage return until you see the prompt HUNT	
	HUNT	X . . X Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION	
9	Program the new telephone so all unanswered calls forward to the flexible Call Forward No Answer DN.	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
	If	Do

	telephone is dial or Digitone-type	step 10
	telephone is digital or SL-1-type	step 11
10	Program the new dial or Digitone-type telephone so all unanswered calls forward to the FDN.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt CLS	
	CLS FNA	Call Forward No Answer allowed
	carriage return until you see the prompt FTR	
	FTR FDN X . . X	Input the DN to which calls are to forward, X..X represents a DN; 1–4 digits prior to Release 13; 1–7 digits Release 13 and later; 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
	— continued —	

Call Forward No Answer

STEP	ACTION	
11	Program the new digital or SL-1-type telephone so all unanswered calls forward to the FDN.	
	> LD 11	
REQ	NEW	Program a new telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt FDN	
FDN	X . . X	Input the DN to which calls are to forward. X..X represent a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
CLS	FNA	Call Forward No Answer allowed
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION	
12	Choose your next step from the choices below.	
	If	Do
	you want to change the number of rings before calls forward	Ask your system supplier to program the change in LD 15.
	you want to change the call treatments for any of the call types	Ask your system supplier to program the change in LD 15.
	you want to change a telephone from Call Forward No Answer denied to allowed	step 13
	you want to change a telephone from Call Forward No Answer allowed to denied	step 31
	you want to change the DN to which calls forward	step 38
13	Choose your next step based on what is programmed for treatments in LD 15, the Customer Data Block.	
	If	Do
	you do not have access to LD 21	Ask your system supplier what treatments are programmed. Look below to find out what step to go to based on the treatments programmed.
	you have access to LD 21	Log in and print your Customer Data Block. Look at the response to each of the following prompts: FNAD, FNAN (pre-Release 10 systems) FNAD, FNAT, FNAL (Release 10 and later)
	treatments are NO	Decide what treatments you want. Ask your system supplier to program them in LD 15. Then follow the step below which is appropriate for the treatments you chose.
— continued —		

1350 Redirecting calls

of 1776

Call Forward No Answer

STEP	ACTION	
13 continued ...		
	If	Do

	treatments are ATT	step 14
	treatments are HNT	step 17
	treatments are FDN	step 24
14	Change the Class of Service of the telephone to allow unanswered calls to forward to the attendant(s).	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.	
	> LD 10 or > LD 11	
	REQ CHG	Program a change on an existing telephone
	TYPE	Input correct type of 500, digital, or SL-1-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do

	using "Easy Change"	Input YES and go to step 15.
	not using "Easy Change"	Input NO or <cr> and go to step 16.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Call Forward No Answer

STEP	ACTION								
15	<p>Program an “Easy Change” to an existing telephone to allow unanswered calls to forward to the attendant(s).</p> <p>ITEM CLS FNA Change Class of Service to allow Call Forward No Answer</p> <p>Go to step 45.</p>								
16	<p>Program a change (not an “Easy Change”) to an existing telephone to allow unanswered calls to forward to the attendant(s).</p> <p>carriage return until you see the prompt CLS</p> <p>CLS FNA Call Forward No Answer allowed</p> <p>Go to step 45.</p>								
17	<p>Choose your next step based on the type of telephone you are changing.</p> <p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>dial or Digitone-type</td> <td>step 18</td> </tr> <tr> <td>digital or SL-1-type</td> <td>step 21</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	dial or Digitone-type	step 18	digital or SL-1-type	step 21
If	Do								
.....								
dial or Digitone-type	step 18								
digital or SL-1-type	step 21								

Call Forward No Answer

STEP	ACTION	
18	Change an existing dial or Digitone-type telephone to allow unanswered calls to forward to the Hunt DN.	
	> LD 10	
	REQ CHG	Program a change to an existing telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 19.
	not using "Easy Change"	Input NO or <cr> and go to step 20.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
19	Program an "Easy Change" to an existing dial or Digitone-type telephone to allow unanswered calls to forward to the Hunt DN.	
	ITEM CLS FNA	Change Class of Service to Call Forward No Answer Allowed
	ITEM HUNT X..X	Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
	— continued —	

Call Forward No Answer

STEP	ACTION	
20	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to allow unanswered calls to forward to the Hunt DN.	
	carriage return until you see the prompt HUNT	
	HUNT	X . . X Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
	CLS	FNA Call Forward No Answer allowed
	Go to step 45.	
21	Change an existing digital or SL-1-type telephone to allow unanswered calls to forward to the Hunt DN.	
	> LD 11	
	REQ	CHG Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using “Easy Change”	Input YES and go to step 22.
	not using “Easy Change”	Input NO or <cr> and go to step 23.
	For more information on “Easy Change,” refer to the <i>Basic programming instructions</i> module of this book.	
	— continued —	

Call Forward No Answer

STEP	ACTION	
22	Program an “Easy Change” to an existing digital or SL-1-type telephone to allow unanswered calls to forward to the Hunt DN.	
	ITEM CLS FNA	Change Class of Service to Call Forward No Answer Allowed
	ITEM HUNT X . . X	Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
23	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to allow unanswered calls to forward to the Hunt DN.	
	carriage return until you see the prompt CLS	
	CLS FNA	Call Forward No Answer allowed
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION																		
24	<p>Choose your next step based on the type of telephone you are changing.</p> <p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>dial or Digitone-type</td> <td>step 25</td> </tr> <tr> <td>digital or SL-1-type</td> <td>step 28</td> </tr> </tbody> </table>	If	Do	dial or Digitone-type	step 25	digital or SL-1-type	step 28												
If	Do																		
dial or Digitone-type	step 25																		
digital or SL-1-type	step 28																		
25	<p>Change an existing dial or Digitone-type telephone to allow unanswered calls to forward to the FDN.</p> <p>> LD 10</p> <table> <tbody> <tr> <td>REQ</td> <td>CHG</td> <td>Program a change to an existing telephone</td> </tr> <tr> <td>TYPE</td> <td>500</td> <td>Dial or Digitone-type telephone</td> </tr> <tr> <td>TN</td> <td>L S C U</td> <td>Input the Terminal Number of the telephone</td> </tr> <tr> <td>ECHG</td> <td></td> <td></td> </tr> </tbody> </table> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>using "Easy Change"</td> <td>Input YES and go to step 26.</td> </tr> <tr> <td>not using "Easy Change"</td> <td>Input NO or <cr> and go to step 27.</td> </tr> </tbody> </table> <p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p> <p style="text-align: center;">— continued —</p>	REQ	CHG	Program a change to an existing telephone	TYPE	500	Dial or Digitone-type telephone	TN	L S C U	Input the Terminal Number of the telephone	ECHG			If	Do	using "Easy Change"	Input YES and go to step 26.	not using "Easy Change"	Input NO or <cr> and go to step 27.
REQ	CHG	Program a change to an existing telephone																	
TYPE	500	Dial or Digitone-type telephone																	
TN	L S C U	Input the Terminal Number of the telephone																	
ECHG																			
If	Do																		
using "Easy Change"	Input YES and go to step 26.																		
not using "Easy Change"	Input NO or <cr> and go to step 27.																		

Call Forward No Answer

STEP	ACTION	
26	Program an “Easy Change” to an existing dial or Digitone-type telephone to allow unanswered calls to forward to the FDN.	
ITEM	CLS FNA	Change Class of Service to Call Forward No Answer Allowed
ITEM	FTR FDN X . . X	Input the Flexible DN to which calls are to forward X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
27	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to allow unanswered calls to forward to the FDN.	
	carriage return until you see the prompt CLS	
CLS	FNA	Call Forward No Answer allowed
	carriage return until you see the prompt FTR	
FTR	FDN X . . X	Input the DN to which calls are to forward X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION	
28	Change an existing digital or SL-1-type telephone to allow unanswered calls to forward to the FDN.	
	<pre>> LD 11</pre>	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 29.
	not using "Easy Change"	Input NO or <cr> and go to step 30.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
29	Program an "Easy Change" to an existing digital or SL-1-type telephone to allow unanswered calls to forward to the FDN.	
	ITEM CLS FNA	Change Class of Service to Call Forward No Answer allowed
	ITEM FDN X..X	Input the DN to which calls are to forward X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 45.	
	— continued —	

Call Forward No Answer

STEP	ACTION								
30	<p>Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to allow unanswered calls to forward to the FDN.</p> <p>carriage return until you see the prompt FDN</p> <table border="0"> <tr> <td>FDN</td> <td>X . . X</td> <td>Input the DN to which calls are to forward</td> </tr> </table> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>carriage return until you see the prompt CLS</p> <table border="0"> <tr> <td>CLS</td> <td>FNA</td> <td>Call Forward No Answer allowed</td> </tr> </table> <p>Go to step 45.</p>	FDN	X . . X	Input the DN to which calls are to forward	CLS	FNA	Call Forward No Answer allowed		
FDN	X . . X	Input the DN to which calls are to forward							
CLS	FNA	Call Forward No Answer allowed							
31	<p>Choose your next step based on the type of telephone you are changing to Call Forward No Answer denied.</p> <p>Do a TNB printout of the telephone you are changing. If you need more information on how to do the printout, refer to <i>Basic programming instructions</i> in this book.</p> <table border="0"> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td>dial or Digitone-type</td> <td>step 32</td> </tr> <tr> <td>digital or SL-1-type</td> <td>step 35</td> </tr> </table>	If	Do	-----		dial or Digitone-type	step 32	digital or SL-1-type	step 35
If	Do								

dial or Digitone-type	step 32								
digital or SL-1-type	step 35								
— continued —									

Call Forward No Answer

STEP	ACTION	
32	Change an existing dial or Digitone-type telephone to deny unanswered calls from forwarding.	
	> LD 10	
	REQ	CHG Program a change to an existing telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 33.
	not using "Easy Change"	Input NO or <cr> and go to step 34.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
33	Program an "Easy Change" to an existing dial or Digitone-type telephone to deny unanswered calls from forwarding.	
	ITEM	CLS FND Change Class of Service to Call Forward No Answer denied
— continued —		

Call Forward No Answer

STEP	ACTION
33 continued ...	
If	Do
.....
you see a DN programmed for FTR FDN in the TNB printout	<p>respond to the ITEM prompt FTR FDN XY..Y</p> <p>Input X before the DN you see in the printout to remove it.</p> <p>Y..Y represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
you see no DN programmed for FTR FDN, only a HUNT DN programmed	
If	Do
.....
the Class of Service (CLS) includes HTA	Leave the Hunt DN as is. Carriage return in response to the ITEM prompt.
the Class of Service (CLS) includes HTD	<p>respond to the ITEM prompt HUNT XY..Y</p> <p>Input X before the DN you see in the printout to remove it.</p> <p>Y..Y represents a DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
Go to step 45.	
— continued —	

Call Forward No Answer

STEP ACTION

34 Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to deny unanswered calls from forwarding.

carriage return until you see the prompt HUNT

HUNT <cr> If the TNB printout you did earlier shows the Class of Service is Hunting allowed (CLS includes HTA), leave the Hunt DN as is (carriage return).

XY . . Y If the TNB printout shows the Class of Service is Hunting denied (CLS includes HTD), input X before the DN you see in the printout to remove it.

Y..Y represents a DN.

carriage return until you see the prompt CLS

CLS FND Call Forward No Answer denied

carriage return until you see the prompt FTR

FTR FDN XY . . Y If the TNB printout shows a DN following FDN, input X before the DN to remove it.

Y..Y represents a DN.

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Go to step 45.

— continued —

Call Forward No Answer

STEP	ACTION	
35	Change an existing digital or SL-1-type telephone to deny unanswered calls from forwarding.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input the correct type of digital or SL-1 telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 36.
	not using "Easy Change"	Input NO or <cr> and go to step 37.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
36	Program an "Easy Change" to an existing digital or SL-1-type telephone to deny unanswered calls from forwarding.	
	ITEM CLS FND	Change Class of Service to Call Forward No Answer denied
— continued —		

Call Forward No Answer

STEP ACTION

36 *continued ...*

If	Do
<p>you see a DN programmed for FTR FDN in the TNB printout</p>	<p>respond to the ITEM prompt FTR FDN XY..Y</p> <p>Input X before the DN you see in the printout to remove it.</p> <p>Y..Y represents a DN.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
<p>if you saw no DN programmed for FDN, only a HUNT DN programmed</p>	
If	Do
<p>the Class of Service (CLS) includes HTA</p>	<p>Leave the Hunt DN as is. Carriage return in response to the ITEM prompt.</p>
<p>the Class of Service (CLS) includes HTD</p>	<p>Respond to the ITEM prompt HUNT XY..Y</p> <p>Input X before the DN you see in the printout to remove it.</p> <p>Y..Y represents a DN.</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
<p>Go to step 45.</p>	

— continued —

Call Forward No Answer

STEP	ACTION	
37	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to deny unanswered calls from forwarding.	
	carriage return until you see the prompt FDN	
FDN	XY . . Y	If the TNB printout shows a DN following FDN, input X before the DN to remove it. Y..Y represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
CLS	FND	Call Forward No Answer denied
	carriage return until you see the prompt HUNT	
HUNT	<cr>	If the TNB printout shows the Class of Service is Hunting allowed (CLS includes HTA), leave the Hunt DN as is.
	XY . . Y	If the TNB printout shows the Class of Service is Hunting denied (CLS includes HTD), input X before the DN you see in the printout to remove it.
	Go to step 45.	
— continued —		

Call Forward No Answer

STEP	ACTION	
38	Change the DN to which calls forward when the telephone is unanswered.	
	Look at the TNB printout you did earlier.	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.	
	If	Do
	no FDN is programmed	step 39
	FDN is programmed	step 42
39	Change the Hunt DN which is used to forward calls.	
	> LD 10 or > LD 11	
	REQ	CHG Program a change on an existing telephone
	TYPE	Input correct type of 500, or digital, or SL-1-type telephone
	TN	L S C U Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 40.
	not using "Easy Change"	Input NO or <cr> and go to step 41.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
	— continued —	

Call Forward No Answer

STEP	ACTION	
40	Program an “Easy Change” to an existing telephone to change the Hunt DN to which calls forward.	
	ITEM HUNT X . . X	<p>Input the new DN to which calls are to forward and Hunt, if you are also allowing Hunting</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 45.</p>
41	Program a change (not an “Easy Change”) to an existing telephone to change the Hunt DN to which calls forward.	
	carriage return until you see the prompt HUNT	
	HUNT X . . X	<p>Input the new DN to which calls are to forward and Hunt, if you are also allowing Hunting</p> <p>X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 45.</p>
— continued —		

Call Forward No Answer

STEP	ACTION
42	<p>Change the FDN which is used to forward calls.</p> <p>> LD 10 or > LD 11</p> <p>REQ CHG Program a change on an existing telephone</p> <p>TYPE Input correct type of 500, digital, or SL-1-type telephone</p> <p>TN L S C U Input the Terminal Number of the telephone</p> <p>ECHG</p> <p>If Do</p> <p>using "Easy Change" Input YES and go to step 43.</p> <p>not using "Easy Change" Input NO or <cr> and go to step 44.</p> <p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p>
43	<p>Program an "Easy Change" to an existing telephone to change the flexible DN to which calls forward.</p> <p>ITEM</p> <p>If Do</p> <p>dial or Digitone-type telephone Input FTR FDN X..X</p> <p>Input the new DN to which calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
— continued —	


Call Forward No Answer

STEP	ACTION
43 continued ...	
digital or SL-1-type telephone	<p>Input FDN X..X</p> <p>Input the new DN to which calls are to forward.</p> <p>X..X represents a DN</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 45.</p>
44 Program a change (not an “Easy Change”) to an existing telephone to change the flexible DN to which calls forward.	
If	Do
dial or Digitone-type telephone	<p>Carriage return until you see the prompt FTR.</p> <p>Input FDN X..X where X..X represents the new DN.</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
digital or SL-1-type telephone	<p>Carriage return until you see the prompt FDN.</p> <p>Input X..X where X..X represents the new DN to which calls are to forward.</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p> <p>1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
Go to step 45.	
— continued —	


Call Forward No Answer

STEP	ACTION								
45	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p>								
46	<p>Check that the programming which you have just done is correct.</p> <p>Place calls to the telephone and let it ring with no answer. Make sure the expected treatment happens.</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>the feature works properly</td> <td>step 47</td> </tr> <tr> <td>the feature does not work properly</td> <td>step 1</td> </tr> </table>	If	Do	the feature works properly	step 47	the feature does not work properly	step 1
If	Do								
.....								
the feature works properly	step 47								
the feature does not work properly	step 1								
47	<p>Arrange for a data dump to be performed.</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 48</td> </tr> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 48
If	Do								
.....								
you do not have access to LD 43	Contact your system supplier.								
you have access to LD 43	step 48								

Call Forward No Answer

STEP	ACTION						
48	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
49	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA</p> <p>or</p> <p>DATA DUMP COMPLETE</p> <table border="0" style="width: 100%; border-top: 1px dotted black;"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 50</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 50
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 50						

Call Forward No Answer

STEP	ACTION
50	Terminate this overlay program. • ****
51	Terminate this programming session. Log off. > LOGO
52	You have completed the programming required to add or change the Call Forward No Answer feature on a telephone.
	

1372 Redirecting calls

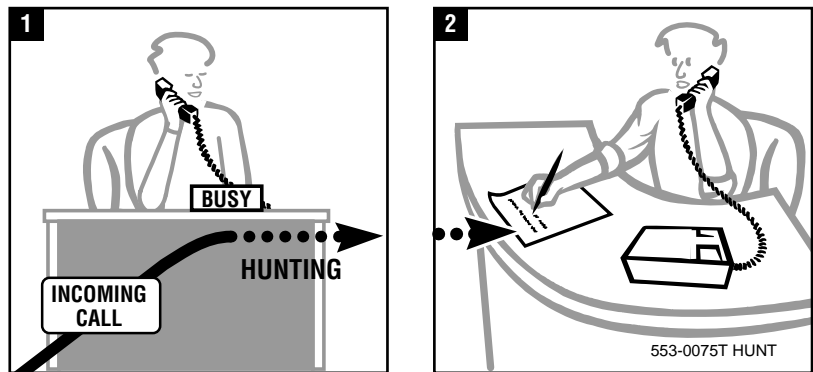
of 1776

Call Forward No Answer

Hunting

Purpose

When the Hunting feature is activated in the programming of a telephone, calls are routed to another Directory Number (DN) when the telephone is busy.



Hunting

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Hunting comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to have the Hunting feature, then you use the procedure in this module to program each one.

The Hunting feature and a feature called Group Hunting are very similar. To ensure you are choosing the proper feature for your needs, refer to the *XII features and services* before proceeding to implement the Hunting feature.

Class of Service (CLS)

You allow or deny the Hunting feature in the Class of Service of a telephone.

Hunt DN



For each telephone with the Hunting feature allowed, you program one DN to which incoming calls go when the telephone is busy. This is called the Hunt DN.

Hunting process

When an incoming call is being processed by the system, these are the steps it follows with respect to the Hunting feature:

- ◆ it checks to determine whether the originally dialed telephone is busy or idle
- ◆ if the telephone is busy, the system checks the programming of the busy telephone for a Class of Service of Hunting allowed and whether there is a Hunt DN
- ◆ the system determines whether the Hunt DN is busy or idle
- ◆ if that DN is busy, the system checks for a Hunting allowed Class of Service and to determine whether or not a Hunt DN is programmed for that telephone

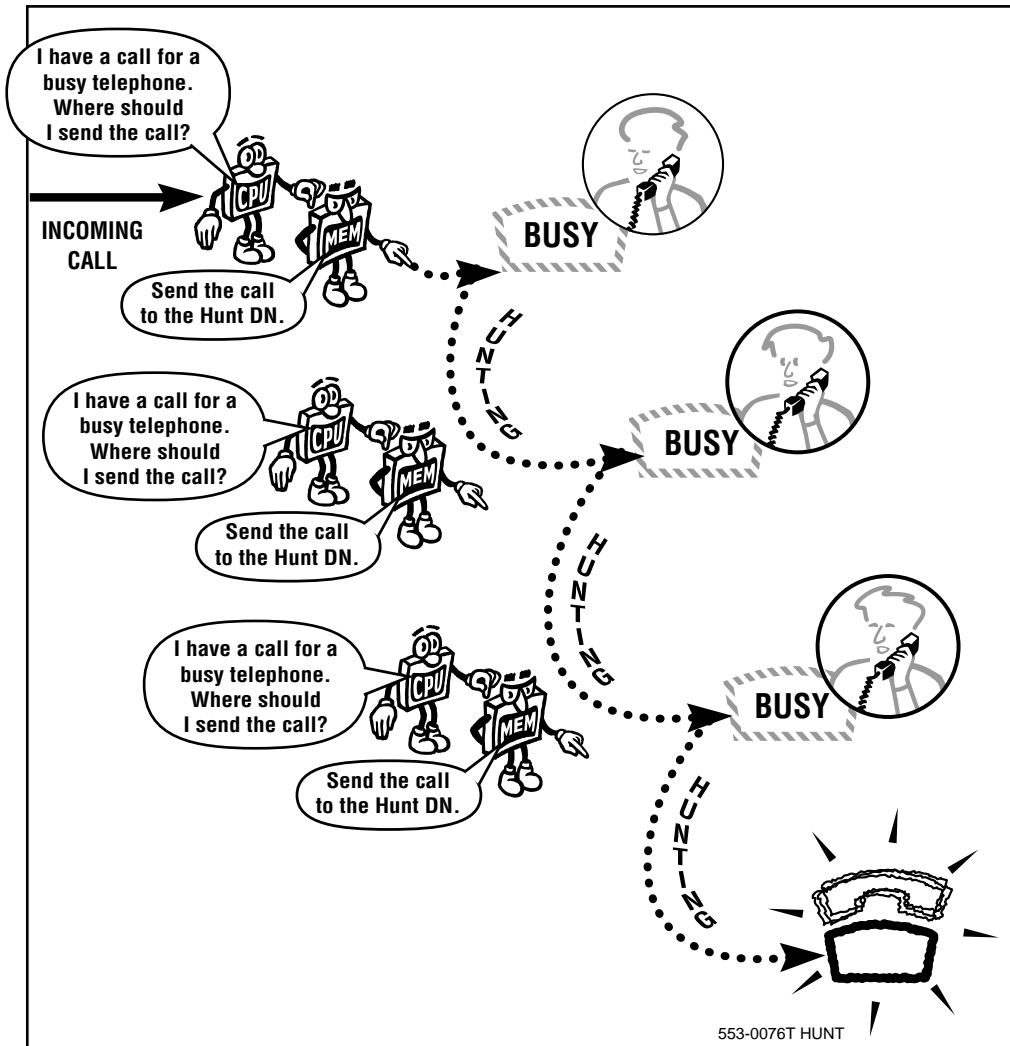
The third and fourth steps repeat until one of the following happens:

- ◆ the system finds an idle DN. In this case the caller hears ringback tone.
- ◆ the system has scanned all Hunt DN's in the chain following from the originally dialed DN and found them all busy. The caller hears a busy tone.
- ◆ the system has scanned the maximum number of Hunt steps it is allowed and found them all busy. The caller hears a busy tone.

Hunting

Hunt chains

Because the Hunting process operates as it does, the system can end up checking the status of several DNs, attempting to find an idle DN for the call. These DNs make up what are called *Hunt chains*. A diagram illustrating a Hunt chain is shown below.



Hunt steps per Hunt chain

The maximum number of telephones which the system can scan in a Hunt chain depends on the system type.

Table 220
System type and Hunt step limits

System family	Model	Maximum number of Hunt steps
SL-1	S, M, MS, LE	18
Meridian SL-1	N, ST	18
Meridian 1	Option 21	18
SL-1	VLE,XL	30
Meridian SL-1	XN,NT, XT	30
Meridian 1	Option 21E, 61, 71, 81	30

Kinds of Hunt chains

The Hunting feature can send a call for a DN which is busy to one of the following two places:

- ◆ a DN on another telephone
- ◆ a DN on another key on the same telephone

If several telephones act as Hunt DNs for each other, different kinds of chains can be set up for different applications.

There are different terms you can use to describe the type of Hunting arrangement you want to implement. These terms describe how the system is set up to Hunt calls when telephones are busy.

- ◆ Linear
- ◆ Short
- ◆ Circular
- ◆ Secretarial

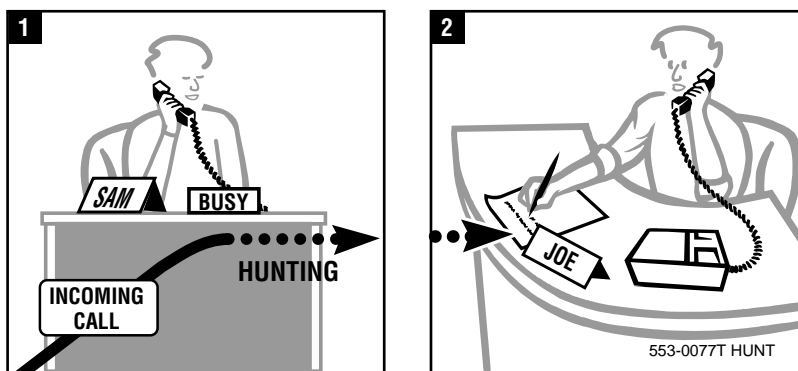
Hunting

Linear Hunting

A user (called Sam in this example) requires another person (Joe in this example) to handle calls for him when he is busy on the telephone. The Hunt DN programmed for Sam's telephone is a DN on Joe's telephone.

If Joe has a digital or SL-1-type telephone, the Hunt DN programmed for Sam's calls can be any one of the DNs on the keys of Joe's telephone.

This is an example of when the Hunt DN for one telephone is a DN assigned on another telephone.



Short Hunting

A person who answers calls for several other users when they are busy might receive a high volume of calls. If you program several DNs on the keys of the telephone, that user can receive several incoming calls at once.

There is a form of Hunting called Short Hunting which is useful on a telephone with several DNs.

Hunting

Once that key is busy with the second call, a third call can Hunt to the next highest key on the same telephone and so on, until one of the following happens:

- ◆ the system reaches the key programmed as the *Last Hunt Key* in the programming of the telephone



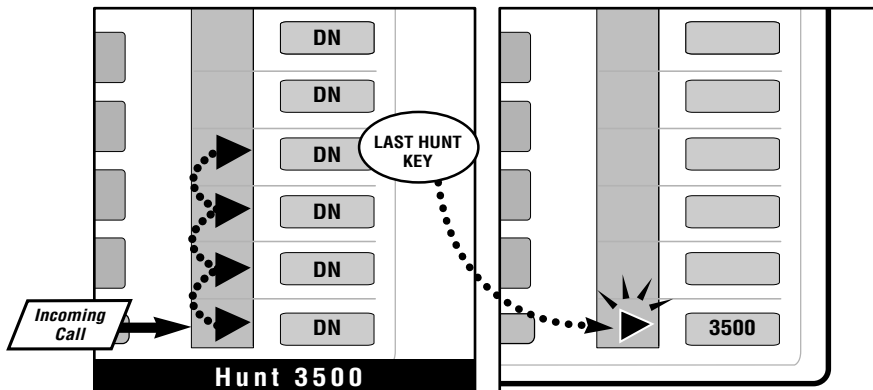
If the Last Hunt Key is already occupied with a call, the system cannot scan any higher key numbers on that telephone to process a Hunting type call.

- ◆ a feature key is the next key - an incoming call cannot be sent to a feature key
- ◆ a key with nothing programmed for it - the system cannot send the incoming Hunted call to that key, nor can it scan the next highest key above the blank key for an available DN
- ◆ the system reaches its maximum number of Hunt steps; it stops scanning keys and busy tone is given to the caller

Once the system comes to the end of Short Hunting on one telephone, it can send calls to a Hunt DN, if one is programmed for that telephone. In that way, Linear Hunting can follow Short Hunting.

In the first three scenarios in the list above, after the system scans as many keys on one telephone that it is allowed, the system looks for a Hunt DN to which to send the call.

Short Hunting followed by Hunting to another telephone



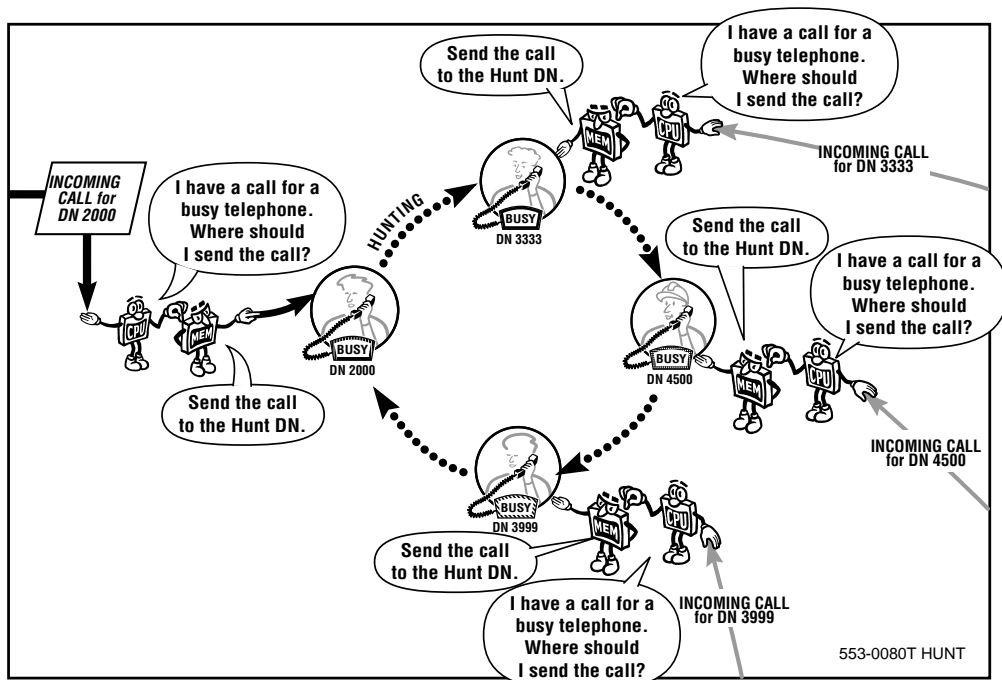
553-0079T HUNT

Hunting

Circular Hunting

You can program Hunting in a specific way for a group of users who share the same job function. If it does not matter who answers calls that come into any of the telephones in the group, you can program Hunting to operate in a circular fashion.

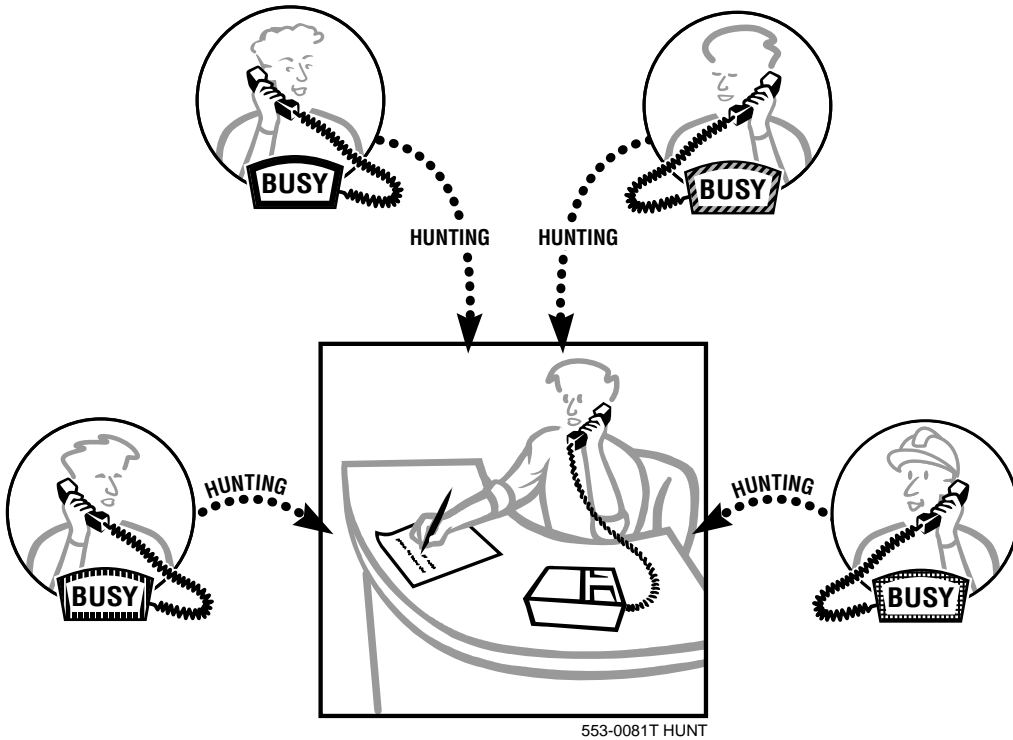
You begin by programming one of the telephones in the group to Hunt to another DN assigned to another telephone in the same group. You program this DN to Hunt to a different DN in the same group and so on until you reach the last telephone in the group. You program the last telephone to Hunt to the first telephone you programmed in the group. As a result of this programming, when a call comes in for any of the DNs in the group and many of them are busy, you know that the system is set up to scan all the telephones in that group because of the Circular Hunting arrangement. Calls have a very good chance of getting through to someone in that group.



Hunting

Secretarial Hunting

In a department where the people want calls to go to the secretary when their telephones are busy, you can implement this form of Hunting. You program several different telephones to Hunt to the one DN (a DN on the secretary's telephone).



The secretary can usually benefit from having several DNs on the telephone, with Short Hunting programmed, to allow several calls to come in at once.

Printing a Hunt chain

There are various methods you can use to find out about the Hunting patterns that are programmed for telephones on your system. Refer to the *Basic programming instructions* module for further information.

Using the feature

Refer to the illustrations and text prior to this section for information on the use of this feature.

Interactions with other features

The Hunting feature works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.



Ring Again interacts with Hunting

When a call comes in for one of the DNs in the Hunt chain and all of the telephones in the chain are busy, the caller hears a busy tone. The system checks the status of the DNs in the Hunt chain only once.

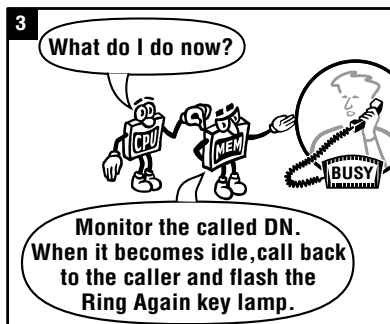
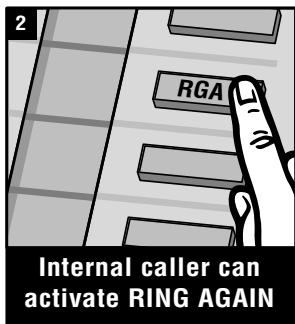
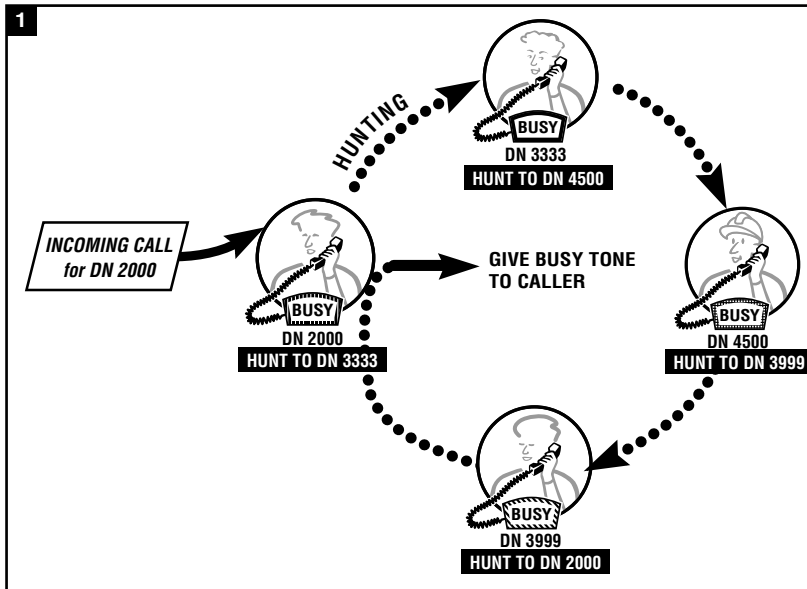
When internal callers or callers using a Private ISDN network want to queue for a busy telephone that they have called, they can activate the Ring Again feature or the Network Ring Again feature respectively. The system calls them back when the DN becomes idle.



If the caller queues, the system monitors the originally dialed DN only and not the others in the Hunt chain. When the originally dialed DN becomes idle, the caller receives a call-back.

Hunting

Ring Again interacts with Hunting

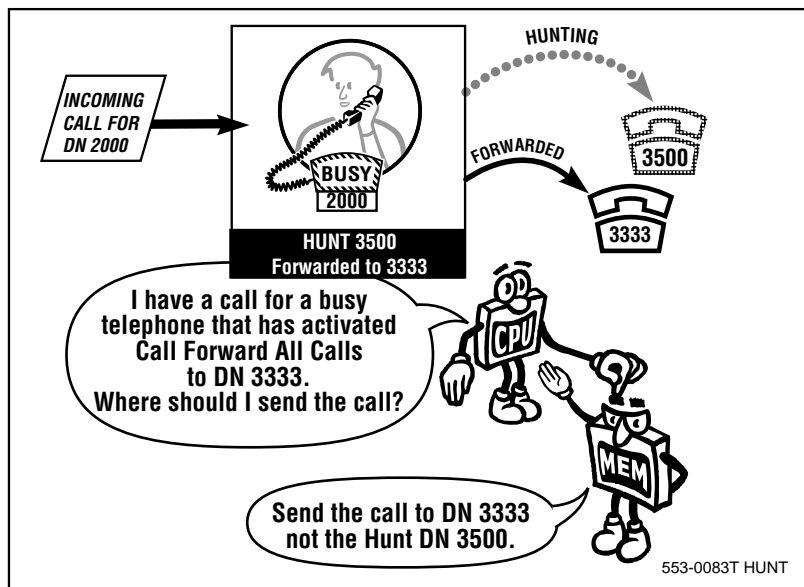


553-0082T HUNT

Hunting

Call Forward All Calls interacts with Hunting

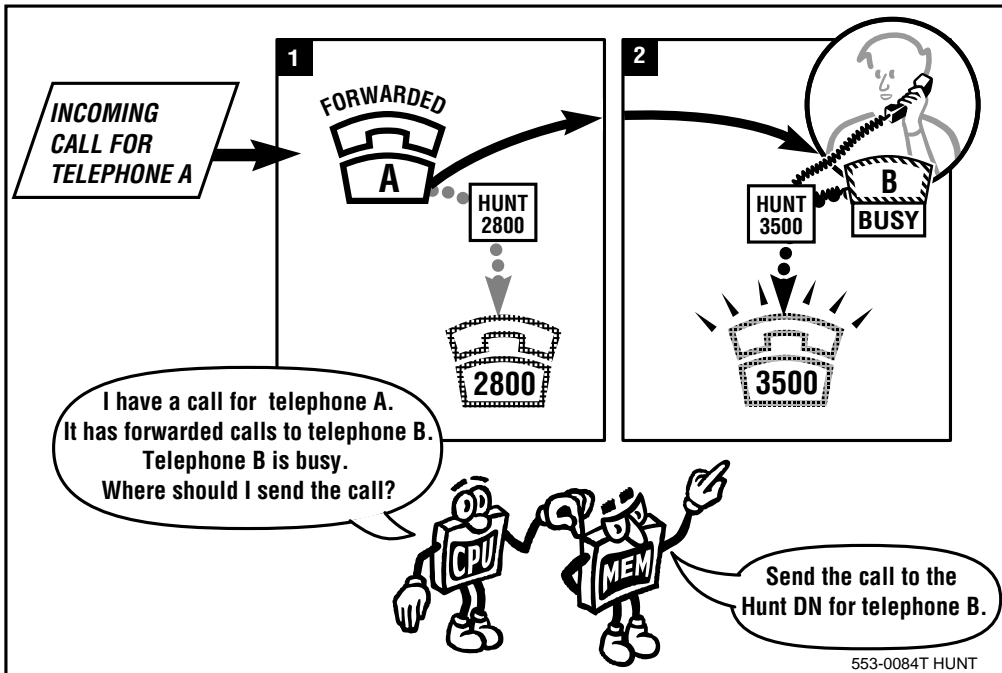
When a user is talking on a call but they also have the Call Forward All Calls feature activated, incoming calls will be redirected to the Call Forward destination DN, not to the Hunt DN programmed for that telephone, even though the telephone is busy. The system treats the Call Forward All Calls feature with a higher priority than the Hunting feature. In other words, Call Forward All Calls takes precedence over Hunting.



Hunting

Call Forward All Calls interacts with Hunting

If a user "A" activates Call Forward All Calls to a telephone "B" which is busy, an incoming call will Hunt to the Hunt DN programmed for telephone "B." The person at that Hunt DN (telephone "C") begins to receive calls which were originally intended for user "A." User "A" should be aware of this interaction when Forwarding calls to user "B" and warn user "C" that they may receive calls originally intended for user "A."

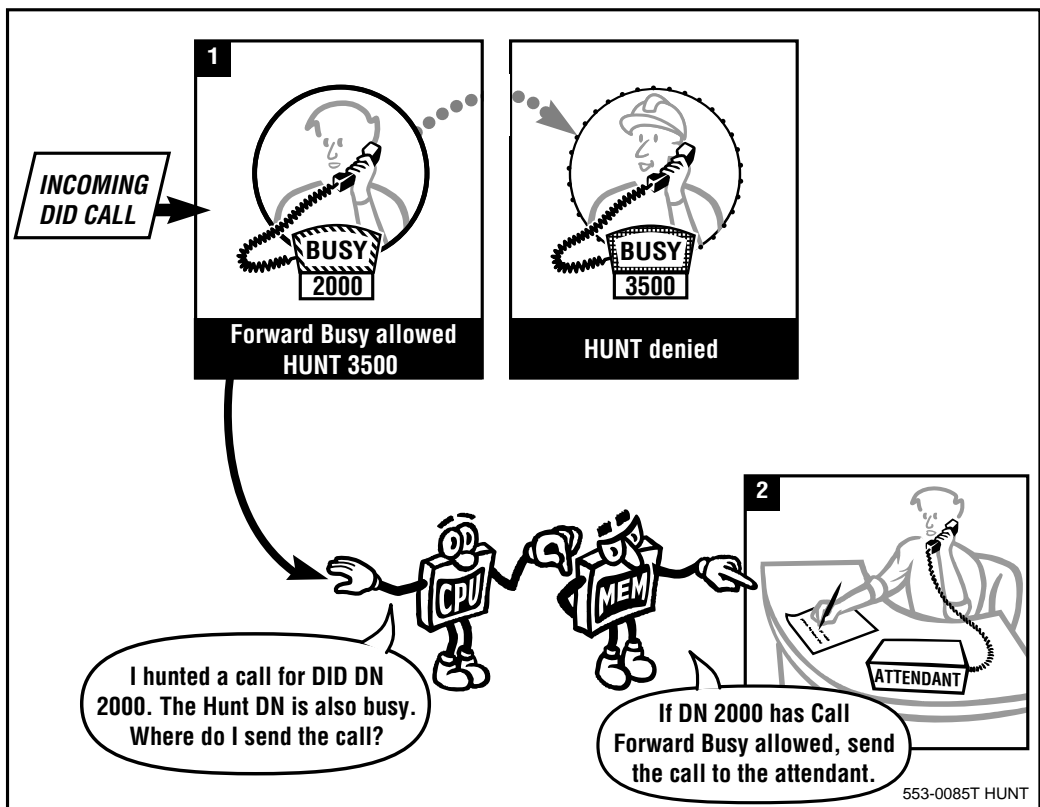


Hunting

Call Forward Busy interacts with Hunting

You can allow both Call Forward Busy and Hunting in the Class of Service of a DID telephone. If you program this, the Hunting feature has priority over Call Forward Busy when the telephone is busy.

When the telephone is busy, and there is an incoming call, the system attempts to Hunt the call to the Hunt DN programmed. If that DN is also busy, and it is not programmed to Hunt, the system sends the call to the attendant using the Call Forward Busy feature. For further information, refer to Task 34, *Call Forward Busy*.

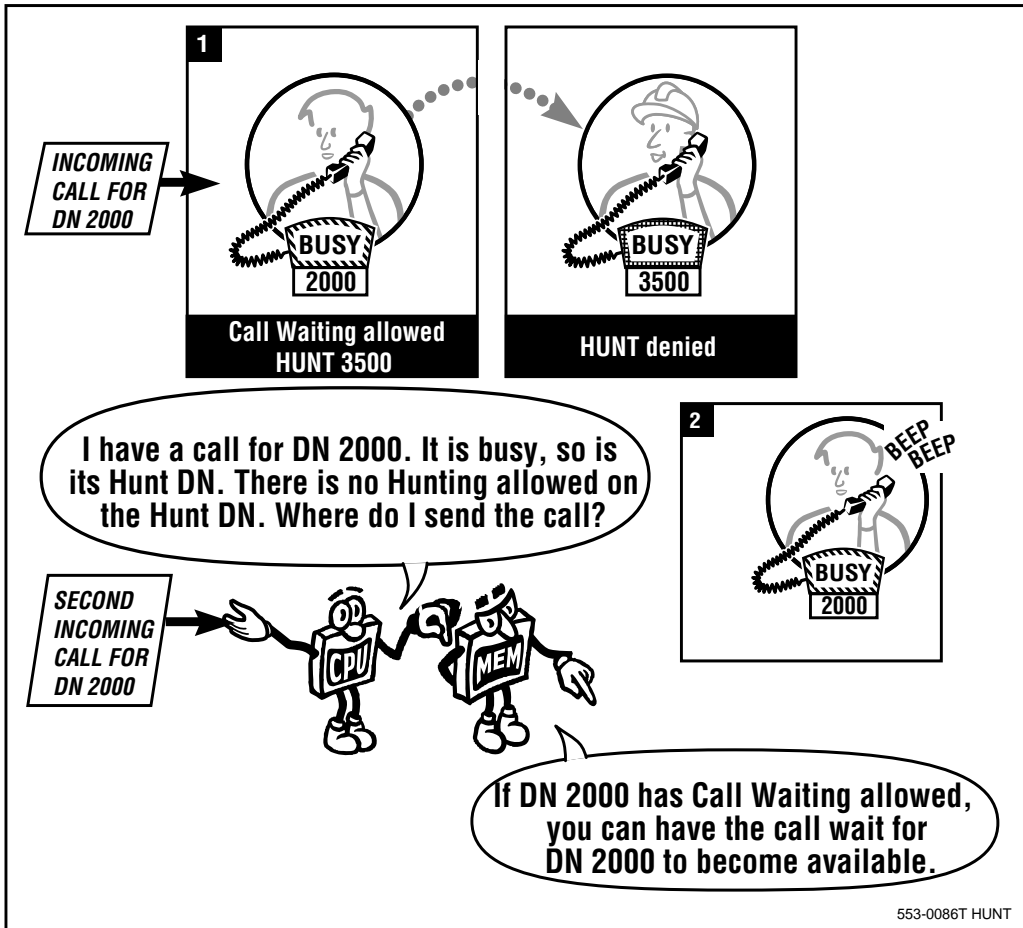


Hunting

Call Waiting interacts with Hunting

If you allow both Hunting and Call Waiting in the Class of Service of one telephone, an incoming call Hunts when the telephone is busy. Hunting has priority over Call Waiting.

If the Hunt DN is also busy and if it does not have Hunting allowed, then the next call goes into a Call Waiting mode at the originally dialed DN, since it has Call Waiting allowed.



Multiple Appearance DN's interact with Hunting

If the same DN appears on more than one telephone or key it is called a Multiple Appearance DN.

There might be situations where several telephones share the same DN but they each have a different Hunt DN programmed. When that shared DN is busy, the system must get instructions on where to Hunt the call. The systems are designed to operate as explained in the following parts.

Prior to Release 18 the system used the sequence of telephones in a DN Block to determine which telephone would control the Hunting feature in a Multiple Appearance DN situation.

The programming associated with telephones that share a DN can be printed out in what is called the DN Block (DNB). The TNs of the telephones which share a particular DN are listed. Refer to *Basic programming instructions* for information on printing a DN Block.

The order of the telephones on this printout relative to each other is very important in redirection related situations like Hunting.

In a shared DN situation, the telephone that controls the Hunting feature for the shared DN is the telephone that has the shared DN as its prime DN (in other words, the DN is programmed on key 0) and the one with the TN that is nearest to the top of the DNB printout. If there are no prime appearances of the DN on any of the telephones, the Hunt DN for that DN when it is busy is determined by whatever is programmed for the telephone at the bottom of the DNB.

The order of telephones in the DN Block changes every time programming is done to one of them. Also, if the system reloads (SYSLOAD), the order changes. Therefore, on systems using software prior to Release 18, it can be difficult to predict how Hunting will actually operate. This is especially true if Service Changes are being done fairly often to the telephones that share DN's and the telephones are not programmed to Hunt calls to the same DN.



To avoid this confusion, when the same DN appears on more than one telephone, you should try to program them all to Hunt to the same Hunt DN.

Hunting

With Release 18 and later software you can choose a Multiple Appearance Redirection Prime (MARP) telephone for each shared DN. You designate the prime telephone, or Terminal Number (TN), which will control the Hunting feature on the Multiple Appearance DN. When the shared DN is busy, the system uses the Hunt DN that you programmed for the designated MARP TN in order to Hunt the call. The Hunting occurs in a predictable, consistent fashion unaffected by Service Changes and SYSLOADS which affected Hunting on earlier software releases. For more information on refer to Task 40, *Multiple Appearance DN Redirection Prime*.

If the MARP feature is disabled on a system, the Hunting feature operates for Multiple Appearance DNs using the DN Block procedure like a pre-Release 18 system.

Call Forward No Answer interacts with Hunting

There are interactions between the Hunting and Call Forward No Answer features which are very important. Some common examples of scenarios relating to these two features are discussed in Task 37, *Call Forward No Answer* in the interactions section. Please refer to that module.

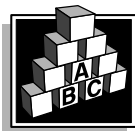


It is very important for proper programming and user training that you understand these interactions. It can also reduce the number of repair calls you report.

Private Lines interact with Hunting

Trunks can be programmed to operate as Private Lines. When you program a trunk in this way, incoming calls on the trunk terminate at a certain DN which can appear on one or more than one telephone. Even though the incoming calls on this Private Line appear on a DN, you cannot program the Hunting feature to operate when it is busy. The Hunting programmed for a telephone only operates on DNs which are not Private Lines.

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Call Party Name Display

Table 221
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

The redirection codes can be up to four letters long. The default code for redirection due to the Hunting feature is the letter B. Decide what codes will work best for your users.

These codes can be seen on telephones with displays when calls are presented to them after being redirected by features such as Hunting.

For example: you might want people to see the code BUSY on their displays when they answer calls for other telephones because those people are busy and the calls Hunted.

People can greet callers more appropriately if they know why the calls are being presented to their telephones in the first place.

Talk to your system supplier about implementing CPND or you can refer to *X11 features and services* for more information. The programming involved is beyond the scope of this book.

Hunting

Treat internal calls differently from external calls when they Hunt

Call Forward by Call Type (Hunting Option)

This feature is included in the operation of a feature called Call Forward by Call Type. Look it up in *X11 features and services* using that name.

Table 222
Software requirements

Release required	Software package(s) required
10	none

This feature enhancement provides the capability to Hunt an internal call to a Hunt DN different from the Hunt DN used for an external call when the telephone is busy.

For the purposes of this feature, internal calls are defined as:

- ◆ telephone to telephone calls
- ◆ incoming calls from Direct Inward System Access (DISA) DNs
- ◆ incoming calls from trunk groups identified as *internal-type* in the programming of their Route Data Blocks

To enable this capability, you allow Hunting *and* Call Forward by Call Type in the Class of Service of a telephone. You go on to program a Hunt DN for internal calls and a Hunt DN for external calls to that telephone. For more information, refer to Task 36, *Call Forward by Call Type (Hunting Option)*.

Hunting by Call Type

Table 223
Software requirements

Release required	Software package(s) required
10.10C	131 – International Supplementary Features (SUPP)

You can program a Class of Service for Direct-Inward-Dial (DID) telephones which allows incoming calls from DID trunks to Hunt when the telephone is busy, but gives internal callers busy tone.

The following rules apply to the call processing if a DN is busy:

- ◆ if the Class of Service is Hunting allowed, then both external and internal calls Hunt, regardless of what is programmed for Call Forward Busy or Hunting by Call Type for the DID telephone
- ◆ if the Class of Service is Hunting denied and Hunting by Call Type denied, then internal calls receive busy tone. DID calls forward to the attendant if Call Forward Busy is allowed. If Call Forward Busy is denied, DID calls receive a busy tone.
- ◆ if the Class of Service is Hunting denied and Hunting by Call Type allowed, then internal calls receive busy tone. DID calls Hunt. If the Hunt DN is also busy, DID calls go to the attendant if Call Forward Busy is allowed. If the Hunt DN is also busy and Call Forward Busy is denied, DID calls receive a busy tone.

For more information on Hunting By Call Type, refer to Task 39, *Hunting by Call Type*.

Hunting

A user can change the Hunt DN using the telephone User Selectable Call Redirection (USCR)

Table 224
Software requirements

Release required	Software package(s) required
19	139 – Flexible Feature Codes

A user can modify the programming associated with the following redirection-related features:

- ◆ Call Forward No Answer (internal)
- ◆ Call Forward No Answer (external)
- ◆ Hunting (internal)
- ◆ Hunting (external)

The DN pre-programmed for these redirections can be changed by the user.

In this module, the focus of the discussion is on the Hunting feature. The impact this has on the Call Forward No Answer feature is covered in Task 37, *Call Forward No Answer*.

When you install a telephone, you must program a Hunt DN (or possibly two different ones for internal calls and external calls) in order for the user to be able to change it with this feature.

You enable the USCR feature in the Class of Service of the telephone.

As a form of security, when the redirection DN is being changed by the user, a Station Control Password is required. That is why the Flexible Feature Code software package is required on the system. It allows this password capability to exist.

For more information refer to Task 42, *User Selectable Call Redirection*.

Set Based Administration Enhancements

If your system is equipped with this capability and you know the proper Flexible Feature Code and password, you can go to a telephone programmed for Administrator Access and change the Hunt DN and External Hunt DN (if one is programmed), for any telephone in the customer group.

This method might be quicker and easier than using a TTY to make the change(s).

You can control the use of this capability by limiting the number of people who know the Flexible Feature Code and password.

Users can choose not to Hunt when calling a busy telephone

Call Forward/Hunt Override Via Flexible Feature Code

Table 225
Software requirements

Release required	Software package(s) required
20	139 – Flexible Feature Codes

Note: in a networking environment, you need software package 159 – Network Attendant Service

If a user calls a telephone that is busy and it is programmed to Hunt, the calling user can override the Hunting feature if the Call Forward/Hunt Override feature is enabled in the Class of Service of the calling telephone. This is useful when the caller wants to speak to the originally dialed user and does not want to leave a message or speak to anyone else.

The call does not Hunt to the Hunt DN when the call was initiated with the Flexible Feature Code (FFC) for the Call Forward/Hunt Override feature. In that case, if the called telephone is busy, the caller hears a busy tone; the call does not Hunt. The caller can queue for the busy telephone, if desired, using the Ring Again feature.

Hunting

The caller must be internal to the same system as the called telephone. External callers cannot use this feature.

In this module, the focus of the discussion is on the Hunting feature. The impact this feature has on the Call Forward No Answer feature is covered in Task 37, *Call Forward No Answer*.

For more information refer to the *Software Feature Guide*.

Calls to a busy telephone can be redirected to an alternate DN at certain times of day

Call Redirection by Time of Day

Table 226
Software requirements

Release required	Software package(s) required
22	none

With the Call Redirection by Time of Day (CRTOD) feature, incoming calls to a busy telephone can be automatically redirected to a predefined Directory Number at a specified time of day. You can program four Alternate Redirection time periods for each Customer Group.

This is useful for users who want their calls to redirect to alternate DNs at specified times of the day. You assign one of the Alternate Redirection time periods to the user's telephone.

The Call Redirection by Time of Day feature also applies to Call Forward No Answer and both of the Call Forward by Call Type options. Refer to the information on those features in this book.

Calls to a busy telephone can be redirected to an alternate DN on certain days

Call Redirection by Day

Table 227
Software requirements

Release required	Software package(s) required
24	none

With the Call Redirection by Day (CRDAY) feature, incoming calls to busy telephones can be automatically redirected to an alternate predefined Directory Number on one or more specified days of the week and/or holidays. You can program four Alternate Day Lists and four Alternate Holiday Lists for each Customer Group. Each Alternate Holiday List can contain up to 20 dates.

If a user who is busy wants calls to be redirected to a DN that is different from the one to which calls are normally sent, on certain days and/or holidays, then you assign one of the Alternate Day Lists and/or one of the Alternate Holiday Lists to the user's telephone. You program the DNs to be used for different types of redirected calls on those days for each telephone.

The Call Redirection by Day feature also applies to Call Forward No Answer and both of the Call Forward by Call Type options. Refer to the information on those features in this book.

Control tips



- ◆ If you have User Selectable Call Redirection in place, print the Hunt DNs that users are programming, on a regular basis. If you have a network, users might be programming DNs which are actually in other switches and this might be causing confusion to your callers. Tell users what DNs are acceptable for them to program and tell them you are doing regular printouts to check this.

Hunting

Administration tips



- ◆ When you are implementing Short Hunt, you might want to experiment with the number of DNs that one person can efficiently handle on one telephone. After you program the telephone initially, you might need to add more DNs or delete extra DNs based on the needs of the user.

If the person with Short Hunting programmed on the telephone is very busy and callers are hearing busy tone frequently because all the DNs on the telephone are busy, you might want to consider implementing Automatic Call Distribution (ACD) instead. Talk to your system supplier about setting up an ACD queue for the callers coming into that busy person's telephone as a better alternative to using Short Hunting.

Refer to *Automatic Call Distribution Feature description* for further information on ACD.

Hunting

- ◆ If you have a group of users who share calls, you probably will publish only one of the DNs in a directory or in external advertising material. Even if you implement Circular Hunting, this published DN receives the highest volume of calls. If an equal distribution of calls to the entire group is important, you should consider Automatic Call Distribution (ACD) instead of Circular Hunting.
- ◆ Before installing each telephone, find out from the user or the user's manager where calls should go when this user is busy. If the user receives DID calls, refer to Task 34, *Call Forward Busy* before you proceed.

Training tips



- ◆ Tell the users sharing a prime DN which Hunt DN will receive calls when the shared DN is busy.
- ◆ Train users about the interactions to expect with Hunting and features like Call Forward All Calls. Summarize for them the pertinent issues from the preceding sections on interactions. Diagrams are useful and demonstrations can make it much easier for them to understand. Be specific about where their calls might go if features interact. This way they won't report unusual situations as problems.
- ◆ If you are using the Call Redirection codes, users with displays must understand what the codes mean and how this might impact the way they answer calls. If you have policies on what you want them to say if they answer calls for someone who is busy or not answering, let them know this in training sessions.

Hunting

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 228
Checklist

Basic	Optional	Preparation
✓		Decide if the user needs the feature. The user might want callers to hear a busy tone instead of Hunting. If you are allowing Hunting, decide what Hunt DN to use.
✓		Find out where the Hunt DN Hunts to. Decide if this Hunt chain is appropriate.
✓		Decide what the Last Hunt Key is if this is a digital or SL-1 -type telephone and you are programming Short Hunting.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		On systems with software previous to Release 18: If users must share prime DNs, encourage them to use the same Hunt DN for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs and require different Hunt DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
	✓	Prepare your training information, and materials. Plan the way you want to address interactions.
— continued —		

Table 228
Checklist (Continued)

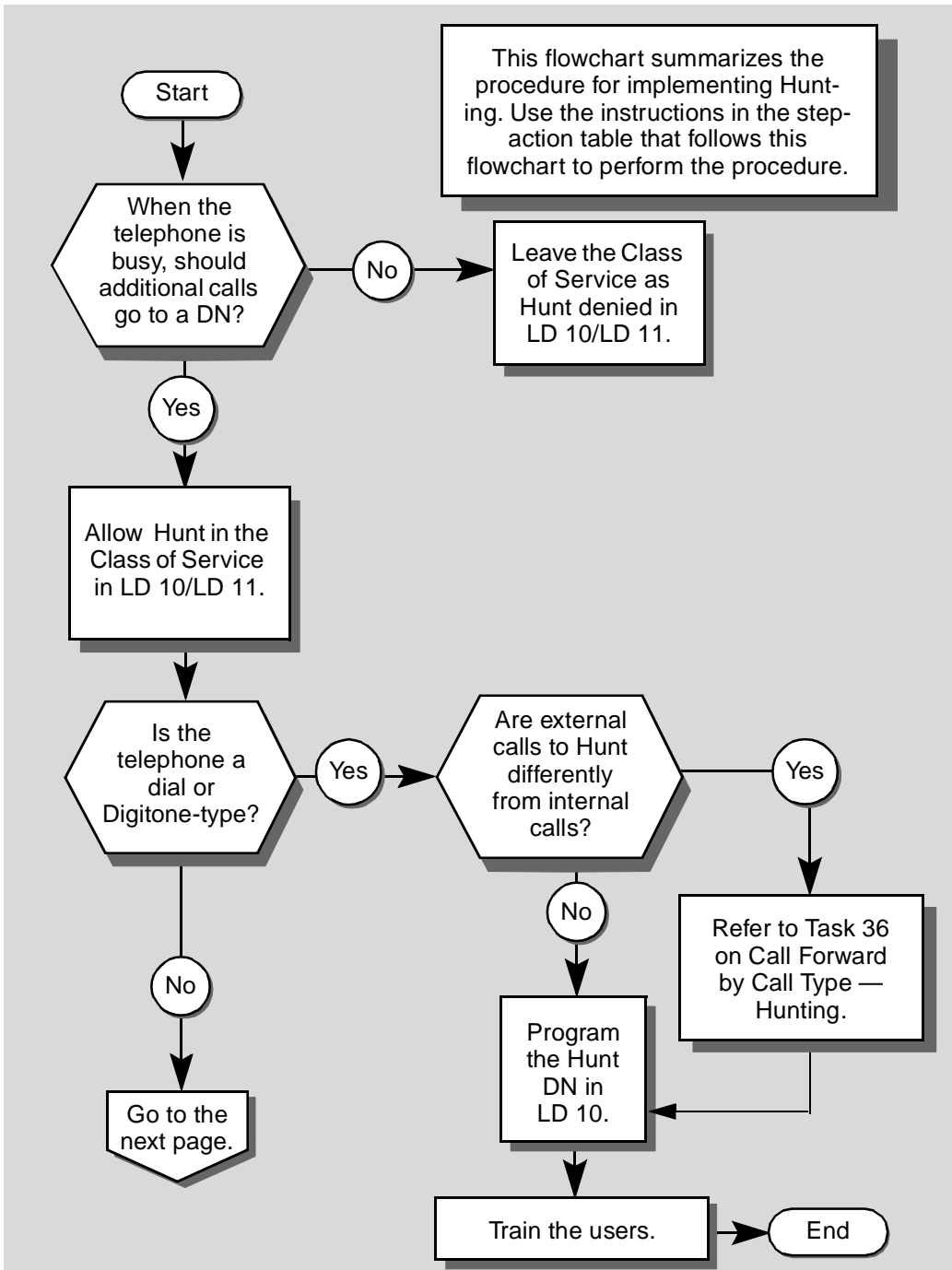
Basic	Optional	Preparation
	✓	Ask the user if internal calls are to have a different Hunt DN from external calls when the telephone is busy. Decide what Hunt DN's to use.
	✓	If the user has a DID telephone number assigned, ask them if DID calls should be treated differently from internal calls. If so, activate Hunting by Call Type.
	✓	Assign a code to display when calls Hunt. Train the users.
	✓	Decide if the user should be able to change the Hunt DN(s) programmed for the telephone. Assign a Station Control Password. Assign a Flexible Feature Code, if there isn't one already assigned. Train the user.
	✓	Decide if the user needs calls redirected to an alternate DN during a certain daily time period.
	✓	Decide if the user can use the Hunt Override capability. If so, assign a Flexible Feature Code, if there isn't one already assigned. Train the user.

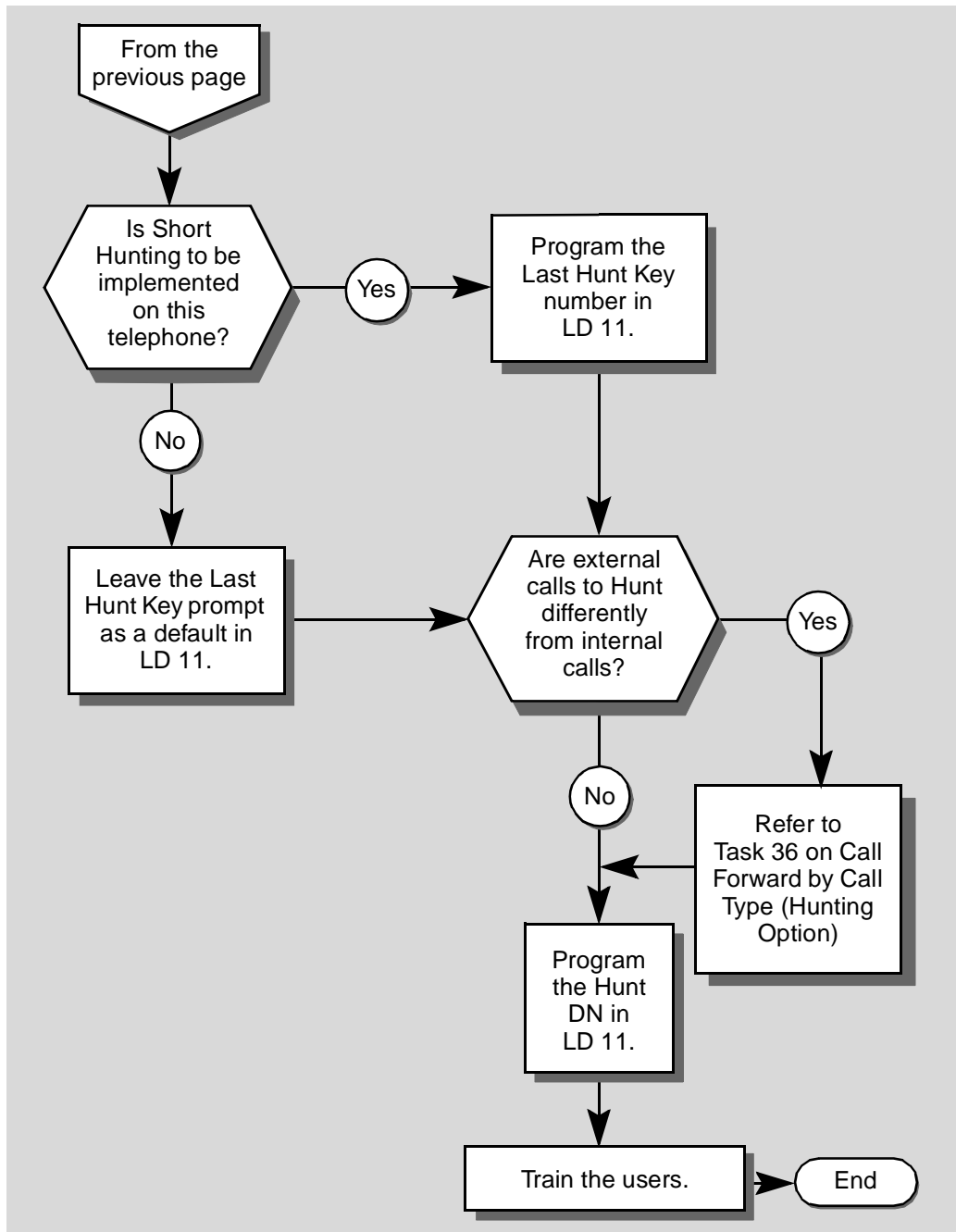
What's next?

A flowchart follows which summarizes the implementation decisions and procedures for Hunting.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Hunting



Hunting

Hunting

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Hunting feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	<p>Log in.</p> <p>For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p>
2	<p>Check the Hunt chain this telephone is joining before you start programming.</p> <p>Use the following three steps to get printouts which verify the Hunting already programmed for the Hunt DN you want to use for this telephone. Refer to <i>Basic programming instructions</i> for more information on DNB and TNB printouts.</p> <ul style="list-style-type: none"> — For the DN which is the Hunt DN you want to use, do a DN Block (DNB) printout. — For the TN(s) you see in the DNB printout, do a TN Block (TNB) printout. Notice that digital telephone TNs have an “H” beside those with Hunting enabled. Look for the HTA Class of Service for other types of telephones. — For the TN(s) with Hunting enabled, look at the printout for the Hunt DN(s) they have programmed. <p>Repeat the three steps as needed, until you have verified the entire existing Hunt chain. If the Hunt DN is a Multiple Appearance DN, refer to the information on how Multiple Appearance DNs interact with Hunting in this Task module.</p> <p style="text-align: center;">— continued —</p>

Hunting

STEP ACTION	
2 continued ...	
<p>You can use LD 20 to print out Hunt chains. Refer to <i>Basic programming instructions</i>.</p> <p>If you have ODAS software package 20, ask your system supplier to help you use it to print out Hunt chains.</p>	
3 Determine if the Hunt chain is suitable.	
If	Do
.....	
Hunt chain is suitable	step 4
Hunt chain is not suitable	Pick a different Hunt DN for this telephone or change the Hunting for the telephones in the Hunt chain. Go to step 6 for dial or Digitone-type telephone changes or step 16 for digital or SL-1-type telephone changes.
4 Choose your starting point from the choices below.	
If	Do
.....	
new dial or Digitone-type telephone	step 5
change to a dial or Digitone-type telephone	step 6
new digital or SL-1-type telephone	step 15
change to a digital or SL-1-type telephone	step 16
— continued —	

Hunting

STEP	ACTION	
5	Program a new dial or Digitone-type telephone.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt HUNT	
	HUNT <cr>	Carriage return, if you are not allowing Hunting.
	X . . X	Input the DN to which calls are to Hunt, if you are allowing Hunting 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
	CLS HTD or <cr>	Hunting denied — default
	HTA	Hunting allowed
	Carriage return until you see one of the following messages:	
	U.data P.data	small systems
	or	
	MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 27.	
— continued —		

Hunting

STEP	ACTION
6	Program a change to the Hunting feature on a dial or Digitone-type telephone.
	> LD 10
	REQ CHG Program a change to an existing telephone
	TYPE 500 Dial or Digitone-type telephone
	TN L S C U Input the Terminal Number of the telephone
	ECHG
	If Do

	using "Easy Change" Input YES and go to step 7.
	not using "Easy Change" Input NO or <cr> and go to step 11.
	For more information on "Easy Change," go to the <i>Basic programming instructions</i> module of this book.
7	Program an "Easy Change" to an existing dial or Digitone-type telephone.
	If Do

	telephone is changing to step 8 Hunting allowed
	telephone is changing to step 9 Hunting denied
	telephone is changing to a step 10 different Hunt DN
	— continued —

Hunting

STEP	ACTION
8	<p>Allow Hunting.</p> <p>ITEM HUNT X . . X Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>ITEM CLS HTA Change the Class of Service to Hunting allowed</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 27.</p>
— continued —	

Hunting

STEP ACTION**9 Deny Hunting.**

ITEM HUNT XY..Y Input X in front of the DN which exists as the Hunt DN to remove it.

Y..Y represents the DN

ITEM CLS HTD Change the Class of Service to Hunting denied

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

10 Change Hunt DN.

ITEM HUNT X..X Input the DN to which calls are to Hunt
1–4 digits prior to Release 13
1–7 digits Release 13 and later
1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

— continued —

Hunting

STEP	ACTION	
11	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.	
	Carriage return until you see the prompt HUNT	
	If	Do

	telephone is changing to Hunting allowed	step 12
	telephone is changing to Hunting denied	step 13
	telephone is changing to a different Hunt DN	step 14
12	Allow Hunting.	
	HUNT X . . X	Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Carriage return until you see the prompt CLS	
	CLS HTA	Change the Class of Service to Hunting allowed
	Carriage return until you see one of the following messages:	
	U.data P.data	small systems
	or	
	MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 27.	
— continued —		

Hunting

STEP	ACTION	
13	Deny Hunting.	
HUNT	XY . . Y	Input X in front of the DN which exists as the Hunt DN to remove it. Y.Y represents the DN.
		Carriage return until you see the prompt CLS
CLS	HTD	Change the Class of Service to Hunting denied
		Carriage return until you see one of the following messages:
	U.data P.data	small systems
		or
	MEM AVAIL: (U/P) USED:TOT:	large systems
		When one of these messages appears, your change has been entered into the memory. Go to step 27.
14	Change Hunt DN.	
HUNT	X . . X	Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
		Carriage return until you see one of the following messages:
	U.data P.data	small systems
		or
	MEM AVAIL: (U/P) USED:TOT:	large systems
		When one of these messages appears, your change has been entered into the memory. Go to step 27.
— continued —		

Hunting

STEP	ACTION	
15	Program a new digital or SL-1-type telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	CLS HTD or <cr>	Hunting denied — default
	HTA	Hunting allowed
	carriage return until you see the prompt HUNT	
	HUNT <cr>	Carriage return, if you are not allowing Hunting.
	X. .X	Input the DN to which calls are to Hunt, if you are allowing Hunting. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	000	Input three zeroes if you want calls to Short Hunting on this telephone without Hunting to another DN.
	carriage return until you see the prompt LHK	
	LHK 0	Input the highest key number for Short Hunted calls. 0 is default — no Short Hunting
	0–7	for M2008
	0–59	for M2216 and M2616
	0–69	for SL-1-type
	Note: the M2006 cannot have Short Hunting	
— continued —		

STEP ACTION**15 continued ...**

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

16 Program a change to the Hunting feature on a digital or SL-1-type telephone.

> LD 11

REQ	CHG	Program a change to an existing telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone
ECHG		

If

Do

using "Easy Change"

Input YES and go to step 17.

not using "Easy Change"

Input NO or <cr> and go to step 21.

For more information on "Easy Change," go to the *Basic programming instructions* module of this book.

— continued —

Hunting

STEP	ACTION	
17	Program an “Easy Change” to an existing dial or Digitone-type telephone.	
	If	Do
	telephone is changing to Hunting allowed	step 18
	telephone is changing to Hunting denied	step 19
	telephone is changing to a different Hunt DN	step 20
	telephone is changing to a different Last Hunt Key number	step 21
18	Allow Hunting.	
ITEM	HUNT X . . X	Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
ITEM	HUNT 000	Input three zeroes if you want calls to Short Hunt on this telephone without Hunting to another DN
ITEM	CLS HTA	Change the Class of Service to Hunting allowed
ITEM	LHK 0	Input the highest key number for Short Hunted calls. 0 is default — no Short Hunting
	LHK 0–7	for M2008
	LHK 0–59	for M2216 and M2616
	LHK 0–69	for SL-1-type
		Note: the M2006 cannot have Short Hunting
— continued —		

Hunting**STEP ACTION****18 continued ...**

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

19 Deny Hunting.

ITEM HUNT XY . . Y Input X in front of the DN which exists as the Hunt DN to remove it.

Y..Y represents the DN.

ITEM CLS HTD Change the Class of Service to Hunting denied

ITEM LHK 0 Last Hunt Key 0 – no Short Hunting

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.

— continued —

Hunting

STEP	ACTION	
20	Change Hunt DN.	
ITEM	HUNT X . . X	Input the DN to which calls are to Hunt 1-4 digits prior to Release 13 1-7 digits Release 13 and later 1-13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
ITEM	HUNT 000	Input three zeroes if you want calls to Short Hunting on this telephone without Hunting to another DN
Carriage return until you see one of the following messages:		
U.data P.data small systems		
or		
MEM AVAIL: (U/P) USED:TOT: large systems		
When one of these messages appears, your change has been entered into the memory.		
Go to step 27.		
21	Change Last Hunt Key number.	
ITEM	LHK 0	Input the highest key number for Short Hunted calls. 0 — no Short Hunting
	LHK 0-7	for M2008
	LHK 0-59	for M2216 and M2616
	LHK 0-69	for SL-1-type
Note: the M2006 cannot have Short Hunting		
Go to step 27.		
— continued —		

Hunting

STEP	ACTION	
22	Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.	
	Carriage return until you see the prompt CLS	
	If	Do

	telephone is changing to Hunting allowed	step 23
	telephone is changing to Hunting denied	step 24
	telephone is changing to a different Hunt DN	step 25
	telephone is changing to a different Last Hunt Key number	step 26
23	Allow Hunting.	
	CLS HTA	Change the Class of Service to Hunting allowed
	Carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	HUNT 000	Input three zeroes if you want calls to Short Hunt on this telephone without Hunting to another DN
— continued —		

Hunting

STEP	ACTION	
23 continued ...		
	Carriage return until you see the prompt LHK	
LHK	0	Input the highest key number for Short Hunted calls. 0 is default — no Short Hunting
	0 – 7	for M2008
	0 – 59	for M2216 and M2616
	0 – 69	for SL-1-type
	Note: the M2006 cannot have Short Hunting	
	Carriage return until you see one of the following messages:	
	U.data P.data	small systems
	or	
	MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 27.	
24 Deny Hunting.		
CLS	HTD	Change the Class of Service to Hunting denied
	Carriage return until you see the prompt HUNT	
HUNT	XY . . Y	Input X in front of the DN which exists as the Hunt DN to remove it. Y..Y represents the DN.
— continued —		

STEP ACTION**24 continued ...**

Carriage return until you see the prompt LHK

LHK 0 Last Hunt Key 0 — no Short Hunting

Carriage return until you see one of the following messages:

U.data P.data small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 27.


— continued —

Hunting

STEP	ACTION	
25	Change Hunt DN.	
	Carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which calls are to Hunt 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	HUNT 000	Input three zeroes if you want calls to Short Hunt on this telephone without Hunting to another DN
	Carriage return until you see one of the following messages:	
	U.data P.data	small systems
	or	
	MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 27.	
— continued —		


STEP	ACTION												
26	<p>Change Last Hunt Key number.</p> <p>Carriage return until you see the prompt LHK</p> <table> <tr> <td>LHK</td> <td>0</td> <td>Input the highest key number for Short Hunted calls. 0 — no Short Hunting</td> </tr> <tr> <td></td> <td>0 – 7</td> <td>for M2008</td> </tr> <tr> <td></td> <td>0 – 59</td> <td>for M2216 and M2616</td> </tr> <tr> <td></td> <td>0 – 69</td> <td>for SL-1-type</td> </tr> </table> <p>Note: the M2006 cannot have Short Hunting</p> <p>Go to step 27.</p>	LHK	0	Input the highest key number for Short Hunted calls. 0 — no Short Hunting		0 – 7	for M2008		0 – 59	for M2216 and M2616		0 – 69	for SL-1-type
LHK	0	Input the highest key number for Short Hunted calls. 0 — no Short Hunting											
	0 – 7	for M2008											
	0 – 59	for M2216 and M2616											
	0 – 69	for SL-1-type											
27	<p>Check that the programming which you have just done is correct.</p> <p>Place calls to the telephone when it is busy and make sure the expected treatment happens.</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>feature works properly</td> <td>step 28</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </table>	If	Do	feature works properly	step 28	feature does not work properly	step 1						
If	Do												
feature works properly	step 28												
feature does not work properly	step 1												
28	<p>Arrange for a data dump to be performed.</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 29</td> </tr> </table> <p style="text-align: center;">— continued —</p>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 29						
If	Do												
you do not have access to LD 43	Contact your system supplier.												
you have access to LD 43	step 29												

Hunting

STEP	ACTION						
29	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
30	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 31</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 31
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 31						

Hunting

STEP	ACTION
31	Terminate this overlay program. • ****
32	Terminate this programming session. Log off. > LOGO
33	You have completed the programming required to add or change the Hunting feature on a telephone.



1424 Redirecting calls

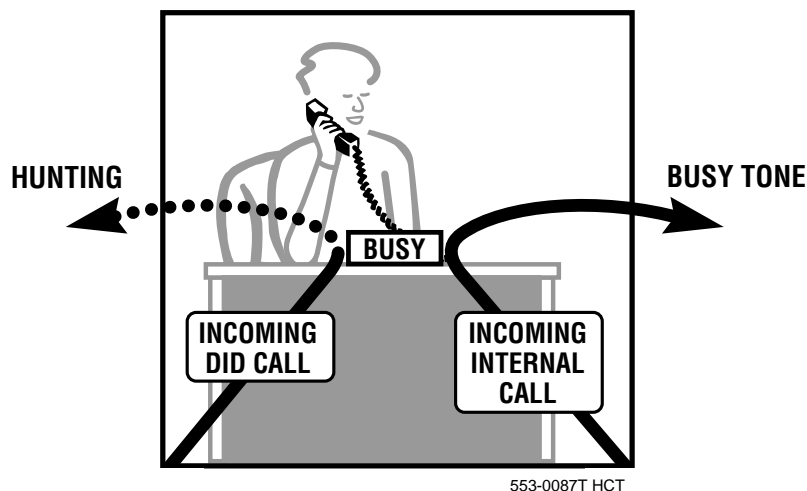
of 1776

Hunting

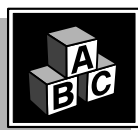
Hunting by Call Type

Purpose

This feature only applies to telephones which receive their externally originated calls from Direct Inward Dial (DID) trunks. You set it up so that when the telephone is busy, incoming DID calls to the telephone redirect to another Directory Number (DN), but incoming internal calls receive a busy tone.



Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Hunting by Call Type

Setting up the feature

Refer to Task 38, *Hunting* for more information on basic Hunting. The information presented here focuses on the enhancements provided by the Hunting by Call Type feature.

You can program this feature to work when you have met the software requirements listed in the following table.

Table 229
Software requirements

Release required	Software package(s) required
10.10C	131 – International Supplementary Features (SUPP)

You select the DID telephones that are to have Hunting by Call Type, then you use the procedure in this module to program each one.

You enable this feature in the Class of Service of Direct-Inward-Dial (DID) telephones.



For this feature to operate, basic Hunting must be denied in the Class of Service. Since Hunting is denied, external non-DID calls which might be transferred to the telephone by the attendant receive busy tone when the telephone is in use. In this situation, the attendant can use Camp-on or hold the call and transfer it later.

Using the feature

Refer to the illustrations and text prior to this section for information on the use of this feature.

Hunting by Call Type

Interactions with other features

Hunting works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Call Forward Busy and Hunting interact with Hunting by Call Type

The system uses the following rules to handle a call if a DN is busy.

- ◆ If the Class of Service is Hunting allowed, then both external and internal calls Hunt, regardless of what is programmed for Call Forward Busy or Hunting by Call Type for the DID telephone.
- ◆ If the Class of Service is Hunting denied and Hunting by Call Type denied, then internal calls receive busy tone. DID calls forward to the attendant if Call Forward Busy is allowed. If Call Forward Busy is denied, DID calls also receive a busy tone.
- ◆ If the Class of Service is Hunting denied and Hunting by Call Type allowed, then internal calls receive busy tone. DID calls Hunt. If the Hunt DN is also busy, DID calls go to the attendant if Call Forward Busy is allowed in the Class of Service of the original DID telephone. If the Hunt DN is also busy and Call Forward Busy is denied in the Class of Service of the original DID telephone, DID calls receive a busy tone.



Ring Again interacts with Hunting by Call Type

If internal callers hear a busy tone when calling a DID telephone on their system, they can activate the Ring Again feature, if that is programmed on their telephones. This allows them to queue for the busy telephone, and when it becomes available, the system calls them back.

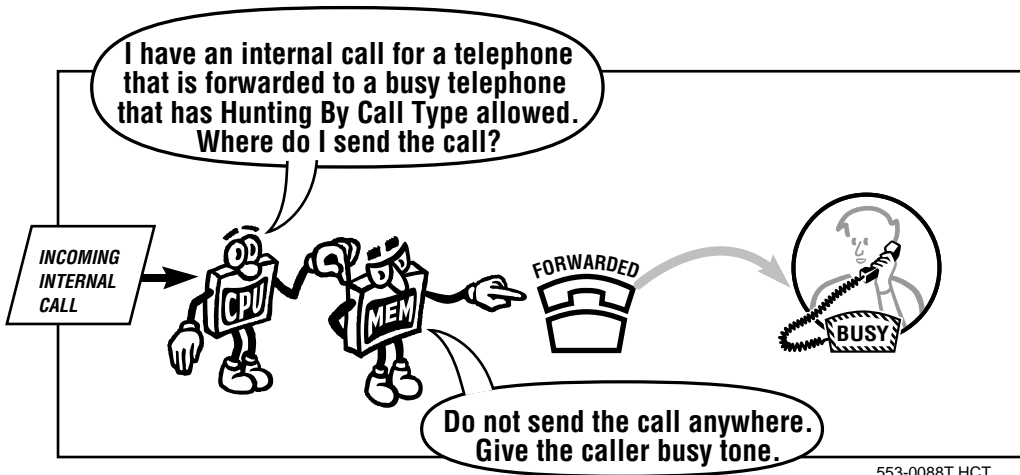
Hunting by Call Type

Call Forward All Calls interacts with Hunting by Call Type

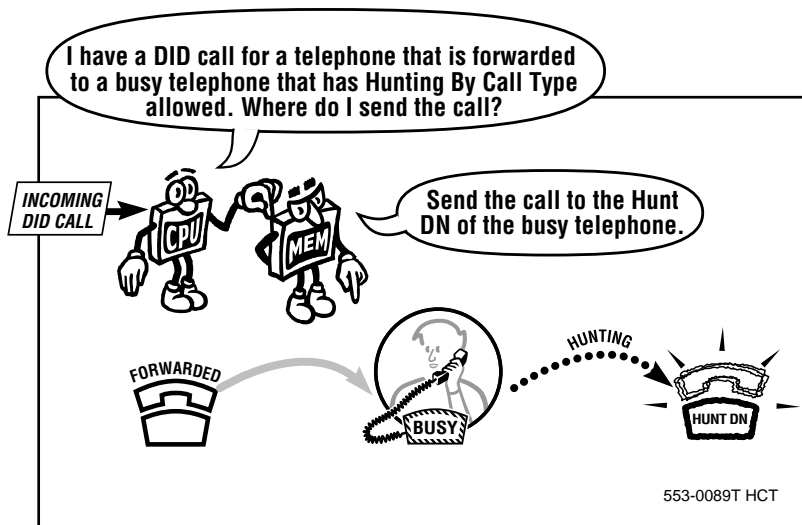
When a user is talking on a call but they also have the Call Forward All Calls feature activated, incoming internal and external calls of both types will be redirected to the Call Forward destination DN, even though the telephone is busy. The system treats the Call Forward All Calls feature with a higher priority than the Hunting feature. In other words, Call Forward All Calls takes precedence over Hunting.

Call Forward All Calls interacts with Hunting by Call Type

When a user activates Call Forward All Calls to another DN and that DN is busy, if that Hunt DN is programmed for Hunting by Call Type, an internal call receives busy tone and a DID call Hunts to the Hunt DN for that telephone. This is true unless there is an internal user who is transferring the DID call to the original telephone. In that case the call is classified as internal, even though the caller is calling in on a DID trunk.



Hunting by Call Type



Multiple Appearance DNs interact with Hunting by Call Type

Refer to the information on this interaction in Task 38, *Hunting*. When the word Hunting is used, you can substitute the words Hunting by Call Type and the information is still correct.

Call Forward No Answer interacts with Hunting by Call Type

Some common examples of scenarios relating to basic Hunting and Call Forward No Answer are discussed in Task 38, *Hunting*, in the *Interactions with other features* section. Please refer to that module.

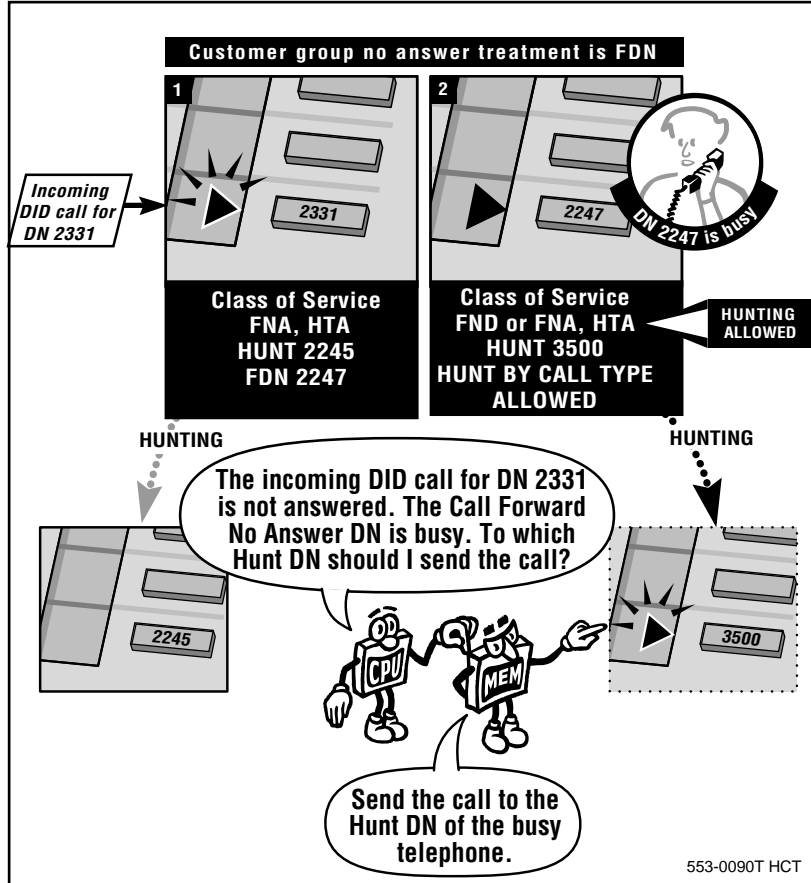
There are interactions between the Hunting by Call Type and Call Forward No Answer features.



It is very important for proper programming and user training that you understand these interactions. It can also reduce the number of repair calls you report.

Hunting by Call Type

Call Forward No Answer interacts with Hunting by Call



Private Lines interact with Hunting by Call Type

Trunks can be programmed to operate as Private Lines. When you program a trunk in this way, incoming calls on the trunk terminate at a certain DN that can appear on one, or more than one telephone. Even though the incoming calls on this Private Line appear on a DN, you cannot program the Hunting feature or the Hunting by Call Type feature to operate on a Private Line DN when it is busy.

Hunting by Call Type

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Call Party Name Display

Table 230
Software requirements

Release required	Software package(s) required
10	95 – Call Party Name Display

Many people use this software to associate names with DNs, or to associate names with trunk groups. These names are displayed on telephone and console displays when calls come in from those DNs or trunk groups. This makes it easier for the user to identify the caller.

Also, codes can be programmed for your customer group that indicate the reasons that calls are redirected. If you prefer, you can use the CPND software for these redirection codes only.

The redirection codes can be up to four letters long. The default code for redirection due to the Hunting feature is the letter B. Calls which are redirected by the feature Hunting by Call Type also display the letter B. Decide what codes will work best for your users.

These codes can be seen on telephones with displays when calls are presented to them after being redirected by features such as Hunting.

For example, you might want users to see the code BUSY on their displays when they answer calls for other users because those telephones were busy and the calls Hunted.

People can greet callers more appropriately if they know why the calls are being presented to their telephones in the first place.

Hunting by Call Type

Talk to your system supplier about implementing CPND or you can refer to *X11 features and services* for more information. The programming involved is beyond the scope of this book.

Call Forward by Call Type (Hunting Option)

This feature is included in the operation of a feature called Call Forward by Call Type. Look it up in *X11 features and services* using that name. A more complete and descriptive name for this software would be Call Forward No Answer and Hunting by Call Type, which would more accurately describe its function.

Table 231
Software requirements

Release required	Software package(s) required
10	none

This feature enhancement provides the capability to Hunt an internal call to a Hunt DN different from the Hunt DN used for an external call when the telephone is busy.

For the purposes of this feature, internal calls are defined as:

- ◆ telephone to telephone calls
- ◆ incoming calls from Direct Inward System Access (DISA) DNs
- ◆ incoming calls from trunk groups identified as *internal-type* in the programming of their Route Data Blocks

To enable this capability, you allow Hunting *and* Call Forward by Call Type in the Class of Service of a telephone. You go on to program a Hunt DN for internal calls and a Hunt DN for external calls to that telephone.

Hunting by Call Type

User Selectable Call Redirection (USCR)

Table 232
Software requirements

Release required	Software package(s) required
19	139 – Flexible Feature Codes

A user can modify the programming associated with the following redirection-related features:

- ◆ Call Forward No Answer
- ◆ Hunting

The DN pre-programmed for these redirections can be changed by the user from the telephone.

In this module, the focus of the discussion is on the Hunting feature. The impact this has on the Call Forward No Answer feature is covered in Task 37, *Call Forward No Answer*.

When you install a telephone, you must program a Hunt DN in order for the user to be able to change it with this feature.

You enable the USCR feature in the Class of Service of the telephone.

When the redirection DN is being changed by the user, a Station Control Password is required, as a form of security. That is why the Flexible Feature Code software package is required on the system. It allows this password capability to exist.

For more information, refer to Task 42, *User Selectable Call Redirection*.

Hunting by Call Type

Control tips



- ◆ If you have User Selectable Call Redirection in place, print the Hunt DNs that users are programming, on a regular basis. If you have a network, users might be programming DNs that are actually in other switches and this might be causing confusion to your callers. Tell users what DNs are acceptable for them to program and tell them you are doing regular printouts to check this.

Administration tips



- ◆ The tips in Task 38, *Hunting* apply here as well. Refer to these for information.
- ◆ If you are implementing Hunting by Call Type so that internal calls receive a busy tone, ensure that you understand how the callers will react to that. Check that you have implemented Ring Again so that internal callers can queue for a busy telephone if they want. Train people on how to use the Ring Again feature.
- ◆ As with basic Hunting, you must understand the Hunt chain the user is joining before you program the telephone. The person at the Hunt DN must be trained to deal with the types of calls that will Hunt to the telephone. For example, if that user will answer DID calls, you must prepare the user for those types of calls.

Training tips



- ◆ As with basic Hunting, the users must be trained to understand the Hunting patterns of the telephones and the interactions that might occur if more than one feature operates simultaneously.
- ◆ Use real examples they might actually encounter. Demonstrate, if possible, to make the users comfortable. There will be fewer repair calls if you and your users understand the features fully.

Hunting by Call Type

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 233
Checklist

Basic	Optional	Preparation
✓		Decide if your company-wide policies agree with Hunting internal calls differently from external calls.
✓		Decide, on a user by user basis, who needs this feature. Find out what Hunt DN each user needs.
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Print out the Hunt chain for the Hunt group the user is joining. Make sure it is appropriate for this telephone.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same internal and external Hunt DNs for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs and require different Hunt DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
✓		Prepare your training information, and materials. Plan the way you want to address interactions.
— continued —		

Hunting by Call Type

Table 233
Checklist (Continued)

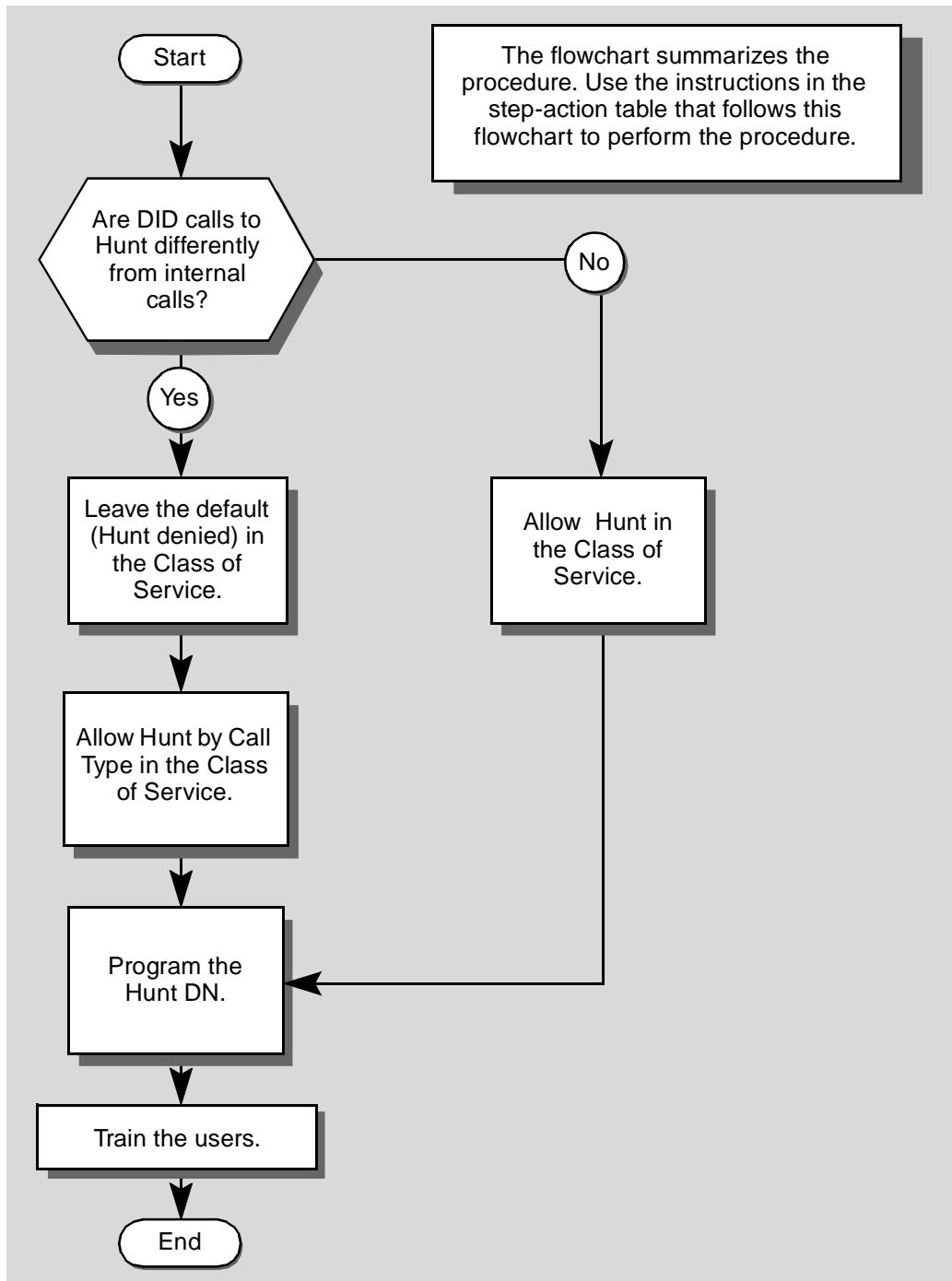
Basic	Optional	Preparation
	✓	Assign a code which will display when calls Hunt. Train the users.
	✓	Decide if the user should be able to change the Hunt DN(s) programmed for the telephone. Assign a Station Control Password. Assign a Flexible Feature Code, if there isn't one already assigned. Train the user.

What's next?

A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Hunting by Call Type



Hunting by Call Type

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Hunting by Call Type feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION
1	<p>Login.</p> <p>For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p>
2	<p>Check the Hunt chain this telephone is joining before you start programming.</p> <p>Use the following three steps to get printouts which verify the Hunting already programmed for the Hunt DN you want to use for this telephone. Refer to <i>Basic programming instructions</i> for more information on DNB and TNB printouts.</p> <ul style="list-style-type: none"> — For the DN which is the Hunt DN you want to use, do a DN Block (DNB) printout. — For the TN(s) you see in the DNB printout, do a TN Block (TNB) printout. Notice that digital telephone TNs have an “H” beside those with Hunting enabled. Look for the HTA Class of Service for other types of telephones. — For the TN(s) with Hunting enabled, look at the printout for the Hunt DN(s) they have programmed. <p>Repeat the three steps as needed, until you have verified the entire existing Hunt chain. If the Hunt DN is a Multiple Appearance DN, refer to the information on how Multiple Appearance DNs interact with Hunting in this Task module.</p>
— continued —	

Hunting by Call Type

STEP	ACTION	
2 continued ...		
<p>You can use LD 20 to print out Hunt chains. Refer to <i>Basic programming instructions</i>.</p> <p>If you have ODAS software package 20, ask your system supplier to help you use it to print out Hunt chains.</p>		
3	Determine if the Hunt chain is suitable.	
	If	Do

	Hunt chain is suitable	step 4
	Hunt chain is not suitable	Pick a different Hunt DN for this telephone or change the Hunting for the telephones in the Hunt chain. Go to step 7 for dial or Digitone-type telephone changes or step 22 for digital or SL-1-type telephone changes.
4	Choose your starting point from the choices below.	
	If	Do

	new dial or Digitone-type telephone	step 5
	change a dial or Digitone-type telephone	step 7
	new digital or SL-1-type telephone	step 20
	change a digital or SL-1-type telephone	step 22
5	Program a new dial or Digitone-type telephone.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone
	program the basics...	Refer to Tasks 1–6 for information.
	— continued —	

Hunting by Call Type

STEP	ACTION
5 continued ...	
carriage return until you see the prompt HUNT	
If	Do
you are allowing Hunting by Call Type	input X..X Input the DN to which DID calls are to Hunt, X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
you are allowing basic Hunting only	input X..X Input the DN to which all calls are to Hunt, X..X represents a DN.
you are not allowing basic Hunting or Hunting by Call Type	input <cr> carriage return
carriage return until you see the prompt CLS	
If	Do
Hunting by Call Type allowed	input HTD HBTA HTD is default, input HBTA only, if you prefer. Go to step 6.
Hunting by Call Type denied and basic Hunting allowed	input HBTD HTA HBTD is default, input HTA only, if you prefer. Go to step 6.
Hunting by Call Type denied and basic Hunting denied	input HBTD HTD HBTD and HTD are defaults, input <cr> only, if you prefer. Go to step 6.
— continued —	

Hunting by Call Type

STEP	ACTION										
8	Program an “Easy Change” to an existing dial or Digitone-type telephone.										
	Refer to the printouts you made of this telephone earlier. Look for the Class of Service HTD (Hunting denied) or HTA (Hunting allowed). Look at the Hunt DN.										
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed</td> <td>step 9</td> </tr> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed</td> <td>step 10</td> </tr> <tr> <td>you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied</td> <td>step 11</td> </tr> <tr> <td>you want to change Hunt DN</td> <td>step 12</td> </tr> </tbody> </table>	If	Do	you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 9	you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 10	you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 11	you want to change Hunt DN	step 12
If	Do										
you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 9										
you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 10										
you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 11										
you want to change Hunt DN	step 12										
9	Allow Hunting by Call Type, when Hunting is already denied.										
	<table border="0"> <tbody> <tr> <td>ITEM CLS HBTA</td> <td>Allow Hunting by Call Type in Class of Service</td> </tr> <tr> <td>ITEM HUNT X..X</td> <td>Input the DN to which DID calls are to Hunt X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</td> </tr> <tr> <td colspan="2">Go to step 13.</td> </tr> </tbody> </table>	ITEM CLS HBTA	Allow Hunting by Call Type in Class of Service	ITEM HUNT X..X	Input the DN to which DID calls are to Hunt X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)	Go to step 13.					
ITEM CLS HBTA	Allow Hunting by Call Type in Class of Service										
ITEM HUNT X..X	Input the DN to which DID calls are to Hunt X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)										
Go to step 13.											
— continued —											

Hunting by Call Type

STEP	ACTION
10	Allow Hunting by Call Type, when Hunting is allowed.
ITEM	CLS HTD Deny basic Hunting in Class of Service
ITEM	CLS HBTA Allow Hunting by Call Type in Class of Service
ITEM	HUNT X..X If the existing Hunt DN you see in the printout is not suitable, input the DN to which DID calls are to Hunt. X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
ITEM	<cr> If the existing Hunt DN you see in the printout is suitable, you do not need to program the Hunt DN. Go to step 13.
11	Deny Hunting by Call Type.
ITEM	CLS HBTD Deny Hunting by Call Type in Class of Service Depending on the needs of the user:
ITEM	CLS HTA allow basic Hunting or
ITEM	<cr> leave basic Hunting denied Refer to Task 38, <i>Hunting</i> for further information.
	Go to step 13.
— continued —	

Hunting by Call Type

STEP	ACTION
12	Change Hunt DN
	<p>ITEM HUNT X..X Input the DN to which DID calls are to Hunt, X..X represents the DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 13.</p>
13	Finish the overlay program.
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 30.</p>
— continued —	

Hunting by Call Type

STEP	ACTION												
14	<p>Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone.</p> <p>Refer to the printouts you made of this telephone earlier. Look for the Class of Service HTD (Hunting denied) or HTA (Hunting allowed). Look at the Hunt DN.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed</td> <td>step 15</td> </tr> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed</td> <td>step 16</td> </tr> <tr> <td>you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied</td> <td>step 17</td> </tr> <tr> <td>you want to change Hunt DN</td> <td>step 18</td> </tr> </tbody> </table>	If	Do	you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 15	you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 16	you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 17	you want to change Hunt DN	step 18
If	Do												
.....												
you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 15												
you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 16												
you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 17												
you want to change Hunt DN	step 18												
15	<p>Allow Hunting by Call Type, when Hunting is already denied.</p> <p>carriage return until you see the prompt HUNT</p> <p>HUNT X . . X Input the DN to which DID calls are to Hunt, X..X represents the DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>carriage return until you see the prompt CLS</p> <p>CLS HBTA Allow Hunting by Call Type in Class of Service</p> <p>Go to step 19.</p>												
— continued —													

Hunting by Call Type

STEP	ACTION	
16	Allow Hunting by Call Type, when Hunting is allowed.	
	carriage return until you see the prompt HUNT	
	HUNT X . . X	<p>If the existing Hunt DN you see in the printout is not suitable, input the DN to which DID calls are to Hunt. X..X represents the DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p>
	HUNT <cr>	<p>If the existing Hunt DN you see in the printout is suitable, you do not need to program the Hunt DN.</p>
	carriage return until you see the prompt CLS	
	CLS HTD HBTA	<p>Deny basic Hunting in Class of Service</p> <p>Allow Hunting by Call Type in Class of Service</p>
	Go to step 19.	
17	Deny Hunt by Call Type.	
	carriage return until you see the prompt CLS	
	CLS HBTD	<p>Deny Hunting by Call Type in Class of Service</p> <p>You can allow basic Hunting (HTA) or you can leave basic Hunting denied, depending on the needs of the user.</p> <p>Refer to Task 38, <i>Hunting</i>, for more information.</p>
	Go to step 19.	
— continued —		

Hunting by Call Type

STEP	ACTION
18	Change Hunt DN
	<p>carriage return until you see the prompt HUNT</p> <p>HUNT X . . X Input the DN to which DID calls are to Hunt. X..X represents the DN</p> <p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)</p> <p>Go to step 19.</p>
19	Finish the overlay program.
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Go to step 30.</p>
— continued —	

Hunting by Call Type

STEP	ACTION	
20	Program a new digital or SL-1-type telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	If	Do
	Hunting by Call Type allowed	Input HBTA HTD. HTD is default, input HBTA only, if you prefer.
	Hunting by Call Type denied and basic Hunting allowed	Input HBTD HTA. HBTD is default, input HTA only, if you prefer.
	Hunting by Call Type denied and basic Hunting denied	Input HBTD HTD HBTD and HTD are defaults, input <cr> only, if you prefer.
— continued —		

Hunting by Call Type

STEP ACTION

20 continued ...

carriage return until you see the prompt HUNT

If	Do
Hunting by Call Type allowed	Input X..X where X..X represents the DN to which DID calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection). Go to step 21.
Hunting by Call Type denied and basic Hunting allowed	Input X..X where X..X represents the DN to which all calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection). Go to step 21.
Hunting by Call Type denied and basic Hunting denied	Carriage return. Go to step 21.

21 Finish the overlay program.

Carriage return until you see one of the following messages:

U.data **P.data** small systems

or

MEM AVAIL: (U/P) USED:TOT: large systems

When one of these messages appears, your change has been entered into the memory.

Go to step 30.

— continued —

Hunting by Call Type

STEP	ACTION	
22	Program a change to the Hunting by Call Type feature on a digital or SL-1-type telephone.	
	Do a DNB and TNB printout of the telephone to see what Hunting parameters are programmed. You might need this information later. Refer to <i>Basic programming instructions</i> in this book for further information.	
	> LD 11	
	REQ CHG	Program a change to an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 23.
	not using "Easy Change"	Input NO or <cr> and go to step 24.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Hunting by Call Type

STEP	ACTION
23	Program an “Easy Change” to an existing digital or SL-1-type telephone.
If	Do
.....
you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 9
you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 10
you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 11
you want to change Hunt DN	step 12
— continued —	

Hunting by Call Type

STEP	ACTION										
24	<p>Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone.</p> <p>Refer to the printouts you made of this telephone earlier. Look for the Class of Service HTD (Hunting denied) or HTA (Hunting allowed). Look at the Hunt DN which might be programmed already.</p> <table border="1"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed</td> <td>step 25</td> </tr> <tr> <td>you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed</td> <td>step 26</td> </tr> <tr> <td>you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied</td> <td>step 27</td> </tr> <tr> <td>you want to change Hunt DN</td> <td>step 28</td> </tr> </tbody> </table>	If	Do	you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 25	you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 26	you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 27	you want to change Hunt DN	step 28
If	Do										
you want to change telephone to Hunting by Call Type allowed and it has Hunting denied programmed	step 25										
you want to change telephone to Hunting by Call Type allowed and it has Hunting allowed programmed	step 26										
you want to change telephone from Hunting by Call Type allowed to Hunting by Call Type denied	step 27										
you want to change Hunt DN	step 28										
— continued —											


Hunting by Call Type

STEP	ACTION	
25	Allow Hunting by Call Type, when Hunting is already denied.	
	carriage return until you see the prompt CLS	
	CLS HBTA	Allow Hunting by Call Type in Class of Service
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input X..X where X..X represents a DN Input the DN to which DID calls are to Hunt. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 29.	
26	Allow Hunting by Call Type, when Hunting is allowed.	
	carriage return until you see the prompt HUNT	
	HUNT X . . X	If the existing Hunt DN you see in the printout is not suitable, input the DN to which DID calls are to Hunt. X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	HUNT <cr>	If the existing Hunt DN you see in the printout is suitable, you do not need to program the Hunt DN.
	carriage return until you see the prompt CLS	
	CLS HTD HBTA	Deny basic Hunting in Class of Service Allow Hunting by Call Type in Class of Service
	Go to step 29.	
— continued —		

Hunting by Call Type

STEP	ACTION	
27	Deny Hunting by Call Type.	
	carriage return until you see the prompt CLS	
	CLS	HBTD Deny Hunting by Call Type in Class of Service
	<p>You can allow basic Hunting (HTA) or you can leave basic Hunting denied, depending on the needs of the user.</p> <p>Refer to Task 38, <i>Hunting</i>, for more information.</p>	
	Go to step 29.	
28	Change Hunt DN.	
	carriage return until you see the prompt HUNT	
	HUNT	X..X Input the DN to which DID calls are to Hunt X..X represents the DN
	<p>1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection).</p>	
29	Finish the overlay program.	
	Carriage return until you see one of the following messages:	
	U.data	P.data small systems
	or	
	MEM AVAIL: (U/P) USED:TOT: large systems	
	When one of these messages appears, your change has been entered into the memory.	
— continued —		

Hunting by Call Type

STEP	ACTION						
30	<p>Check that the programming which you have just done is correct.</p> <p>Place internal calls and DID calls to the telephone when it is busy. Make sure the expected treatment happens.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 31</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 31	feature does not work properly	step 1
If	Do						
feature works properly	step 31						
feature does not work properly	step 1						
31	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 32</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 32
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 32						
32	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
— continued —							

Hunting by Call Type

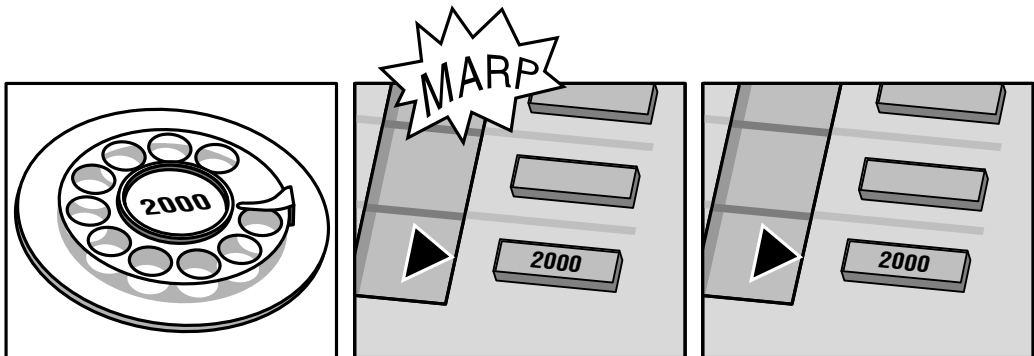
STEP	ACTION						
33	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 34</td> </tr> </tbody> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 34
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 34						
34	<p>Terminate this overlay program.</p> <p>. ****</p>						
35	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>						
36	<p>You have completed the programming required to add or change the Hunting by Call Type feature on a telephone.</p>						



Multiple Appearance DN Redirection Prime

Purpose

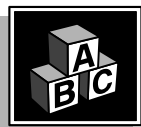
When the same Directory Number (DN) appears on many telephones, it is called a Multiple Appearance DN. If telephones that share DNs are each programmed differently for redirection features, it can be difficult for you to predict where calls will go when the shared DN is not answered, busy or forwarded. The Multiple Appearance DN Redirection Prime (MARP) feature allows you to designate one of the telephones as the *Multiple Appearance DN Redirection Prime Appearance (or MARP TN)* of the shared DN. This tells the system to use the redirection features that are programmed for this telephone to control what happens when the Multiple Appearance DN is busy or not answered or forwarded.



553-0091T MARP

Multiple Appearance DN Redirection Prime

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Setting up the feature

Multiple Appearance DN Redirection Prime (MARP) comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to be designated as the MARP, then you use the procedure in this module to program each one.

Table 234
Software requirements

Release required	Software package(s) required
18	none

You can program the same DN on more than one dial, Digitone-type, digital or SL-1-type telephone. Prior to Release 13, the maximum possible number of appearances of one DN was 16. As of Release 13, there can be up to 30 appearances of one DN, if you have sufficient memory. Your system supplier can assess whether the memory on your system is sufficient to support large numbers of appearances of the same DN.

Regular and proprietary telephones

To make the following information easier to understand, dial and Digitone-type telephones are called regular telephones. Digital and SL-1-type telephones are called proprietary telephones.

Multiple Appearance DN Redirection Prime

Prior to Release 18 software and the introduction of MARP



All systems (pre- and post-Release 18) have sorted lists, in memory, of all telephones connected to them. One list is called the *DN Block*.

If you want to know the sequence of the telephones sharing a particular DN, you request a printout of the DN Block for that DN. The system prints out all Terminal Numbers (TNs) of the telephones which have an appearance of the requested DN. There is more information on TNs and DNs in the *Terms and abbreviations* module in this book. You can print this list anytime you want to know how the telephones are sorted, using overlay program (LD) 20 or 22.



It is recommended that you program the same Hunt DN and Call Forward No Answer DN on telephones which have the same prime DN. Sometimes you cannot avoid having different Hunting DNs and Call Forward No Answer DNs programmed.

When the shared DN is busy or not answered, the system needs some sort of rule in order to choose one Hunting DN or Call Forward No Answer DN in order to redirect the call.

It is the position of the telephone in the DN Block which determines whether or not the system uses the programming of that telephone to redirect calls. In order for you to be able to predict how the system is going to redirect a call, you need to know how it sorts TNs in the DN Block. The best way of knowing precisely, at any given moment, what will happen is to print a copy of the DN Block using LD 20 or LD 22.

Assembling the DN Block

The telephones which share the same DN are sorted in a complex way using the following rules (prior to Release 18):

- ◆ If the DN appears on regular telephones only, the TN with the highest numerical value is at the top of the list. The remaining telephones are listed in decreasing numerical order. For example, TN 8 0 1 3 is listed before TN 4 0 2 1.
- ◆ If the DN appears on proprietary telephones only, and all appearances are programmed to ring, the order is the same as for regular telephones.

Multiple Appearance DN Redirection Prime

- ◆ If the DN appears on proprietary telephones only, and all appearances are programmed not to ring, the TN with the lowest numerical value is at the top of the list. The remaining telephones are listed in increasing numerical order.
- ◆ If the DN appears on both regular and proprietary telephones, the TNs are listed with regular telephones at the top of the list and proprietary telephones at the bottom of the list. The regular telephone TN with the highest numerical value is at the top. The remaining regular telephones are listed in decreasing numerical order. The proprietary telephones are listed in increasing numerical TN order following that, with the highest numerical TN value at the bottom.

For example if there are four telephones with TNs as follows: a regular telephone 28 0 0 1, a proprietary telephone 8 0 1 4, a proprietary telephone 28 0 1 9, a regular telephone 28 0 0 0. The DN Block looks like this:

```

28 0 0 1
28 0 0 0
 8 0 1 4
28 0 1 9

```

Service Changes affect the DN Block

After a Service Change to a telephone the TN list changes as follows:

- ◆ if the DN appears on regular telephones only, the changed telephone TN is placed at the top of the list
- ◆ if the DN appears on proprietary telephones only, and all appearances are programmed to ring, the changed telephone TN is placed at the top of the list
- ◆ if the DN appears on proprietary telephones only, and all appearances are programmed not to ring, the changed telephone TN is placed at the bottom of the list
- ◆ if the DN appears on both regular and proprietary telephones, the changed regular telephone TN is placed at the top of the list. The changed proprietary telephone TN (ringing or non-ringing DN) is placed at the bottom of the list.

Multiple Appearance DN Redirection Prime

SYSLOAD affects the DN Block

If the system reloads its data from the disks, the DN Block is re-assembled, according to the rules described under the previous heading *Assembling the DN Block*. There is more information on SYSLOAD in the module called *You should know this* in this book.

What telephone in the DN Block controls the redirection?

Generally, the system searches the DN Block from the top down to determine how to Hunt or forward a call for a Multiple Appearance DN which is busy or not answering. It searches for the first regular telephone with the DN or proprietary telephone with the DN on key 0. It uses the Hunt DN of that telephone if the DN is busy or the Call Forward No Answer DN, if the DN is ringing no answer. If two telephones with a shared prime DN activate Call Forward All Calls, calls will forward to the DN entered by the person who most recently used the feature.

Release 18 software — the introduction of MARP

New systems with Release 18 and later software are installed with the MARP feature active by default. Systems upgrading from pre-Release 18 must have the feature activated by the installer. Until it is activated, the redirection-related features continue to operate as they did on the earlier release of software.

The installer can choose to disable the use of MARP in the configuration overlay program (LD 17). If the feature is disabled, the control of redirection-related features reverts to the method used by pre-Release 18 systems, described previously. When it is disabled, a reminder message (MARP NOT ACTIVATED) prints out when certain overlay programs are loaded. The overlays this happens in are: 10, 11, 20, 22, 25, 80, 81, 82, 83.

MARP TNs are assigned at conversion and SYSLOAD

On upgraded systems or new systems where the MARP feature is active, the system assigns a MARP designation to every Single Appearance DN or Multiple Appearance DN.

Multiple Appearance DN Redirection Prime

A MARP TN is assigned based on the following rules:

- ◆ the lowest numerical TN with a primary appearance of the DN is assigned as the MARP TN
- ◆ if no primary appearance of the DN is found, the lowest numerical TN with a secondary appearance of the DN is assigned as the MARP TN

Since MARP assignments are being made by the system during a conversion and upgrade, redirections might change from what users were accustomed to prior to the upgrade. You can designate your own MARP TNs to operate as they did previously or you can use the opportunity to designate new telephones to control the redirection-related features.

MARP TNs are assigned at Service Change

When you program a DN, the system presents the MARP prompt(s) and you have the opportunity to assign the TN of your choice as the MARP TN.

After a Service Change or a telephone relocation to a new TN, the system assigns a MARP TN to the DN in the following situations:

- ◆ the MARP TN with the DN is removed
- ◆ the DN on its MARP TN is changed to another DN
- ◆ the DN on its MARP TN is changed from being the redirection prime

When assigning MARP TNs during a Service Change, the system conducts a search beginning at the top of the TN list (the DN Block in memory) for the first appearance of the DN as the prime DN. It assigns the MARP TN based on the following:

- ◆ the lowest numerical TN with a primary appearance of the DN
- ◆ if no primary appearance of the DN is found, the lowest numerical TN with a secondary appearance of the DN

Multiple Appearance DN Redirection Prime

MARP assignment

The following types of DNs have MARP assigned:

- ◆ Single Appearance DN
- ◆ Multiple Appearance DN
- ◆ data DN
- ◆ incoming two-way Hotlines
- ◆ private line DN

Automatic Call Distribution (Call Center) DNs are not assigned MARP TNs. Refer to *Automatic Call Distribution Feature description* for more information on ACD.

Using the feature

Refer to the illustrations and text which precede this part for information on the use of this feature.

Interactions with other features

MARP works with, affects, or is affected by other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *XII features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

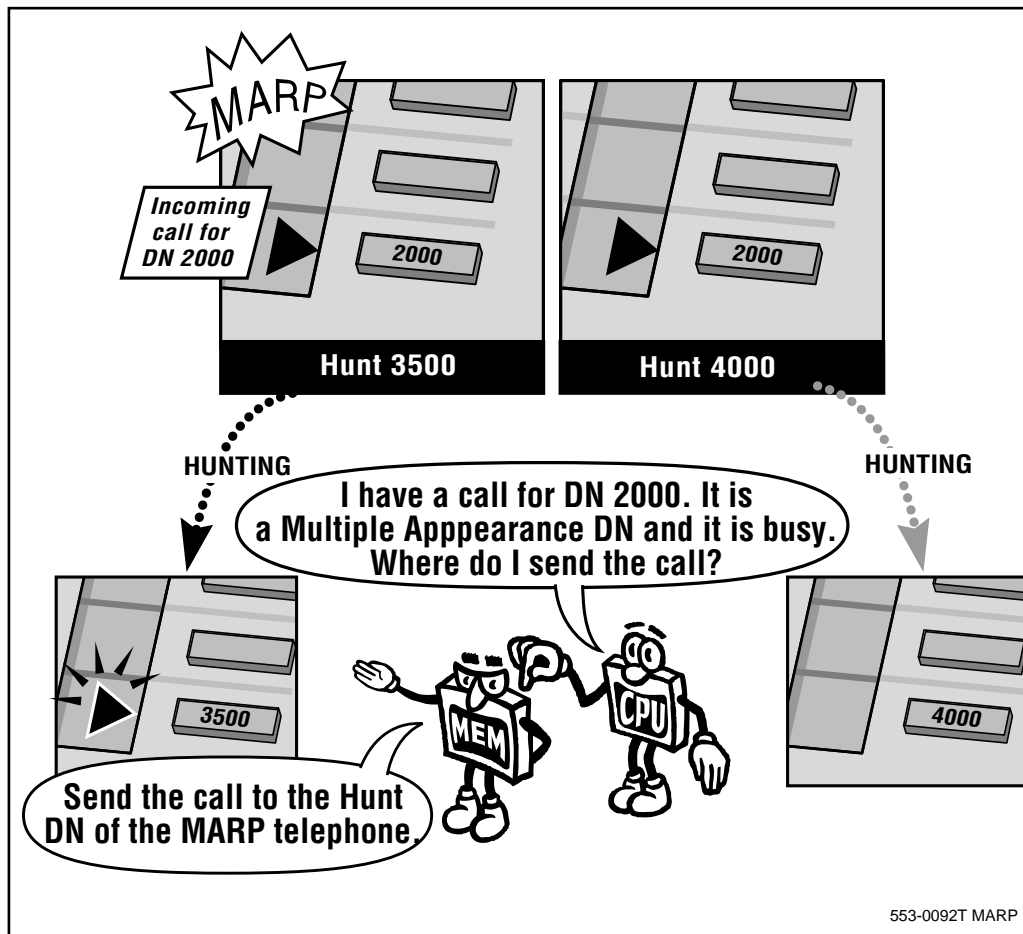
Hunting interacts with MARP

The MARP TN is always checked to determine if and how the call is to be redirected by the Hunting feature when the DN is busy.

Except for the case of Short Hunting, if the MARP TN for that DN does not have Hunting enabled, no Hunting occurs.

Multiple Appearance DN Redirection Prime

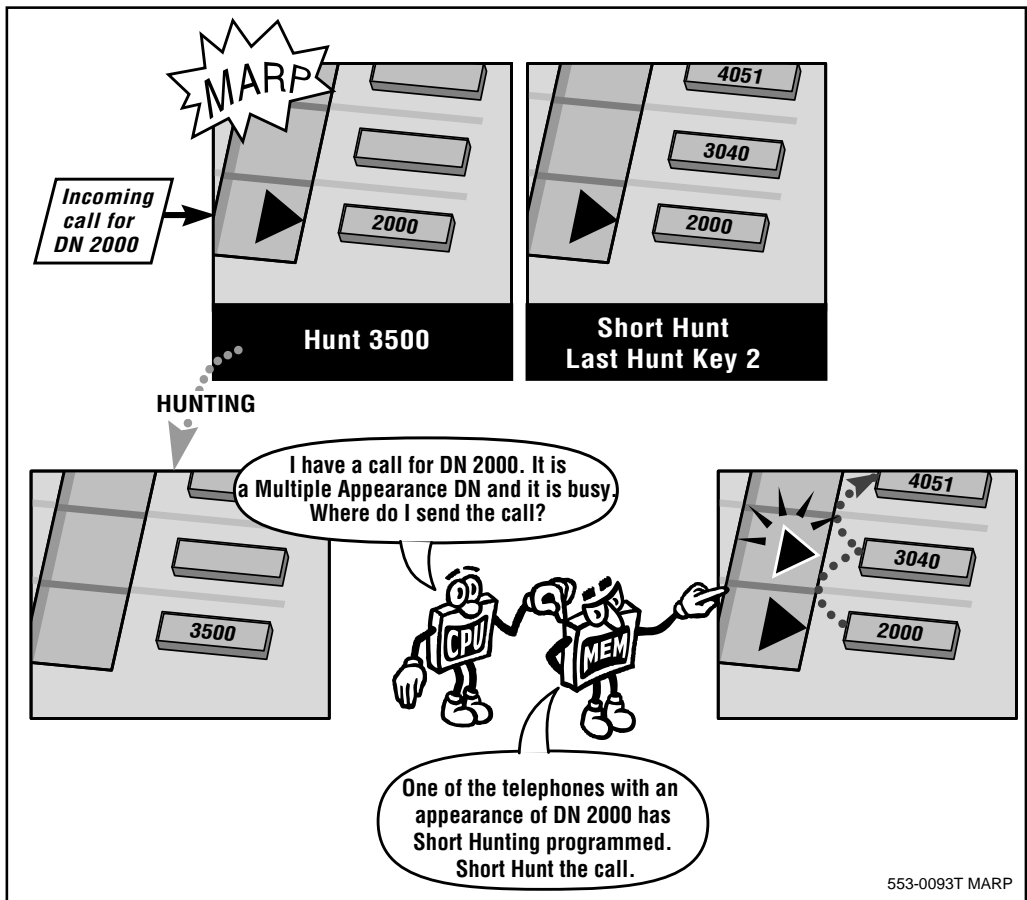
Hunting interacts with MARP



Multiple Appearance DN Redirection Prime

Short Hunting interacts with MARP

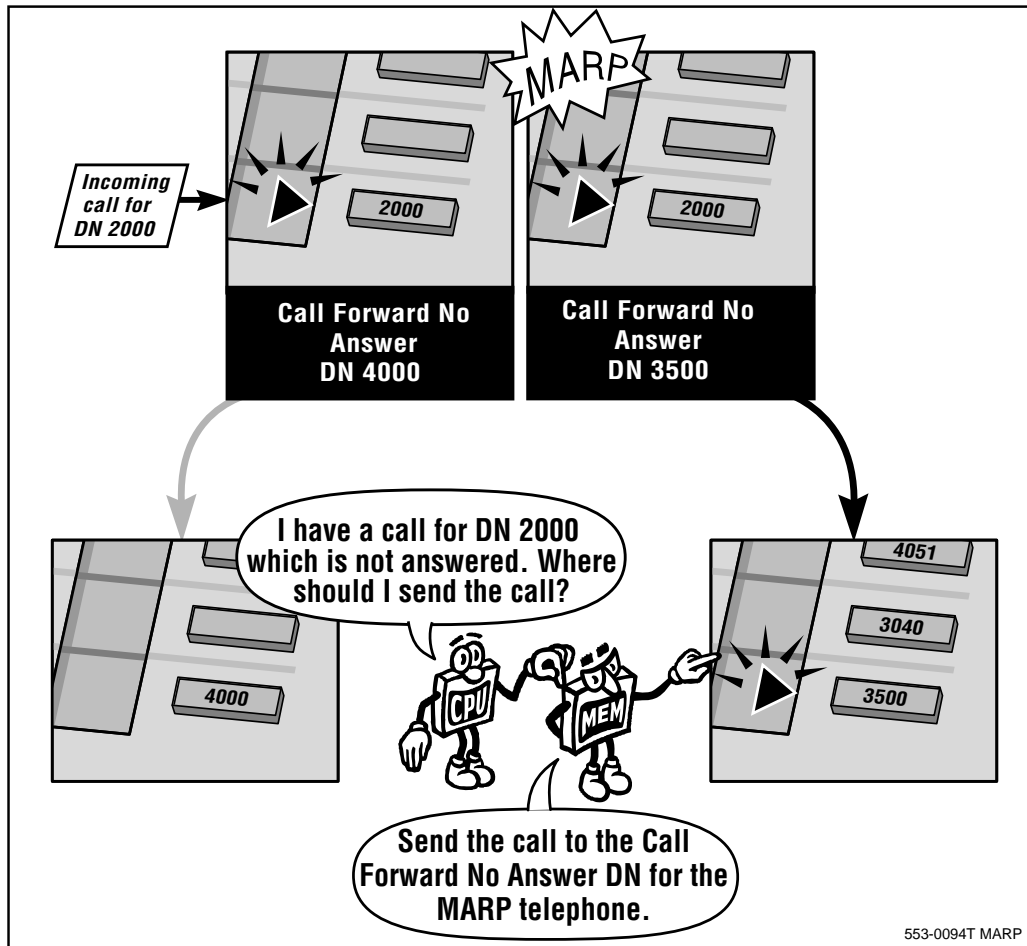
If Short Hunting is programmed on a telephone, with non-MARP appearances of DNs, Short Hunting is allowed to complete before the Hunt DN programmed for the MARP TN is used.



Multiple Appearance DN Redirection Prime

Call Forward No Answer interacts with MARP

The MARP TN is always checked to determine if and how the call is to be redirected by the Call Forward No Answer feature when the DN is ringing and not answered. The call redirects to the DN programmed at the MARP TN for this feature.

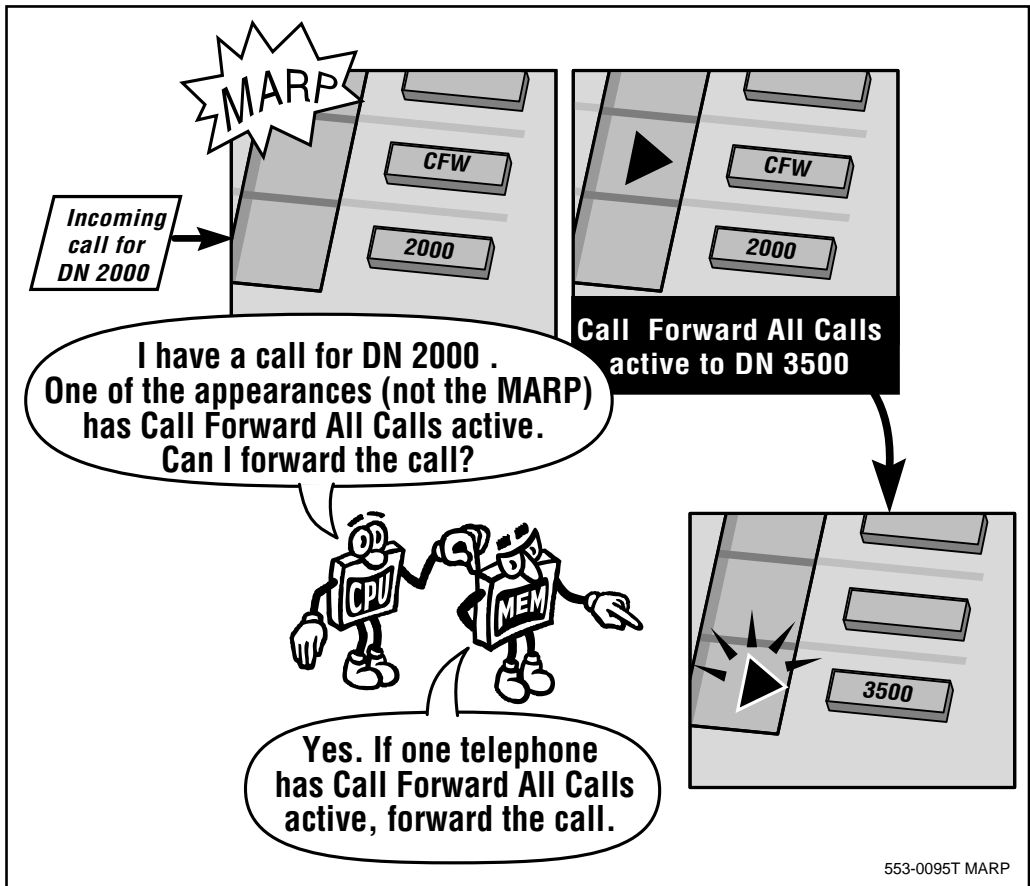


Multiple Appearance DN Redirection Prime



Call Forward All Calls interacts with MARP

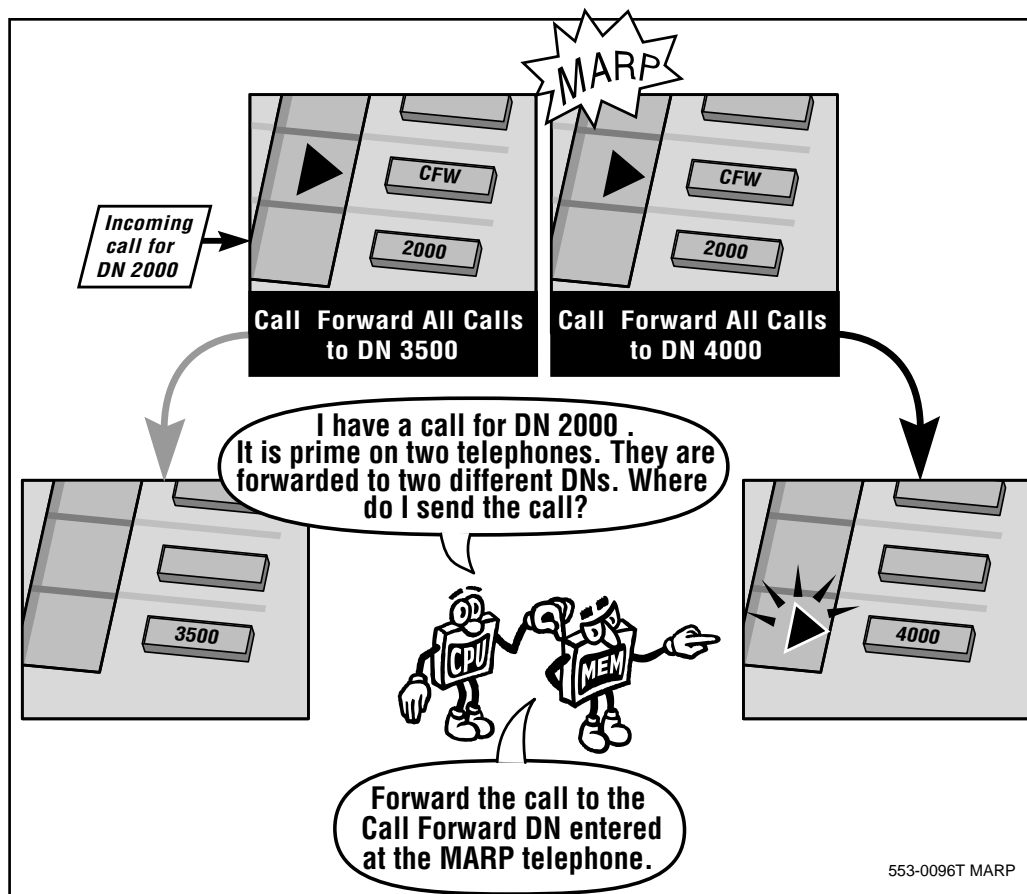
If two telephones share prime DN's and a user at either one of those telephones activates the Call Forward All Calls feature, then calls are forwarded. This happens whether the MARP TN or the non-MARP TN has the Call Forward All Calls feature active.



Multiple Appearance DN Redirection Prime

Call Forward All Calls interacts with MARP

If both telephones with the same prime DN have the Call Forward All Calls feature active simultaneously, incoming calls redirect to the Call Forward DN entered at the MARP TN.

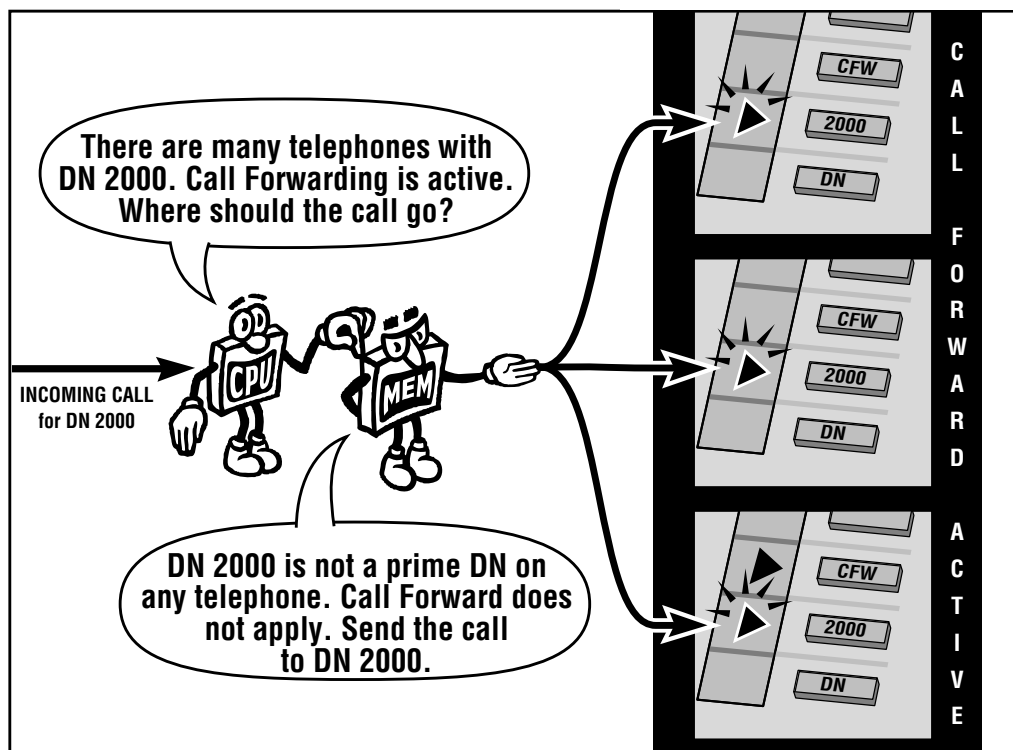


Multiple Appearance DN Redirection Prime



Call Forward All Calls interacts with MARP

If a shared DN is on a secondary key everywhere it appears, users cannot forward incoming calls to that DN no matter whether they use the MARP TN or not.



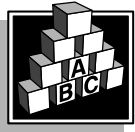
553-0054T CFAC

If a DN is prime on one telephone and secondary on another and the secondary appearance is designated as the MARP, then if both telephones have the Call Forward All Calls feature active, calls go to the DN programmed at the MARP TN. However, if only the MARP telephone is forwarded, and calls come in for the shared DN which is prime on another telephone, calls do not forward, since the telephone where the DN is prime does not have the Call Forward All Calls feature active.

It is not a good idea to designate a secondary appearance of a Multiple Appearance DN as the MARP.

Multiple Appearance DN Redirection Prime

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Automatic Set Relocation (ASR)

If users are moving their own telephones with the ASR feature, a temporary MARP TN is assigned, after the telephone has been removed from a jack and before it is connected to the new jack. When the telephone is connected to the new jack, the original MARP TN is restored. There are Customer Service Change (CSC) messages which appear on the maintenance TTY that tell the system maintainer that telephones are being relocated. There are also Service Change (SCH) messages that print out to indicate the MARP TN for the DN, every time it changes.

User Selectable Call Redirection (USCR)

If the user at the MARP TN for a Multiple Appearance DN enters a new Hunt DN or Call Forward No Answer DN from the telephone, it affects the call redirections for the other users who share the same prime DN.

Control tips



- ◆ On systems with software prior to Release 18, try to avoid programming different Hunting and Call Forward No Answer DN's on telephones which share prime DN's. If you must do this, and you have frequent Service Change activity changing the redirection control for that DN, an upgrade to post-Release 18 software is strongly recommended.

Multiple Appearance DN Redirection Prime

Administration tips



- ◆ Before you allow users to share prime DNs, discuss other alternatives with your system supplier. If you must share prime DNs, make a good attempt to program the same redirection DNs at the sharing telephones. If you do this, you avoid MARP-related interactions which lead to user questions and caller confusion.
- ◆ If the same DN is prime on one telephone and secondary on other telephones, designate the prime appearance of the DN as the MARP.
- ◆ If you use User Selectable Call Redirection (USCR) and the MARP feature, the users at the MARP telephones must understand the impact they will have on the other users when they change the redirection-related features from their telephones. You must monitor the use of this feature as well since the MARP telephone users impact other users when they use the USCR feature. You might consider doing regular printouts of the TN-Block to check what has been entered by the users. You can then assess whether that is meeting the needs of the other users who share with the MARP TN user.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ If users understand how the MARP TN affects other telephone users they can use the capability more efficiently. This is especially true of the Call Forward All Calls feature. Include a demonstration of this in your training session.

Multiple Appearance DN Redirection Prime

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 235
Checklist

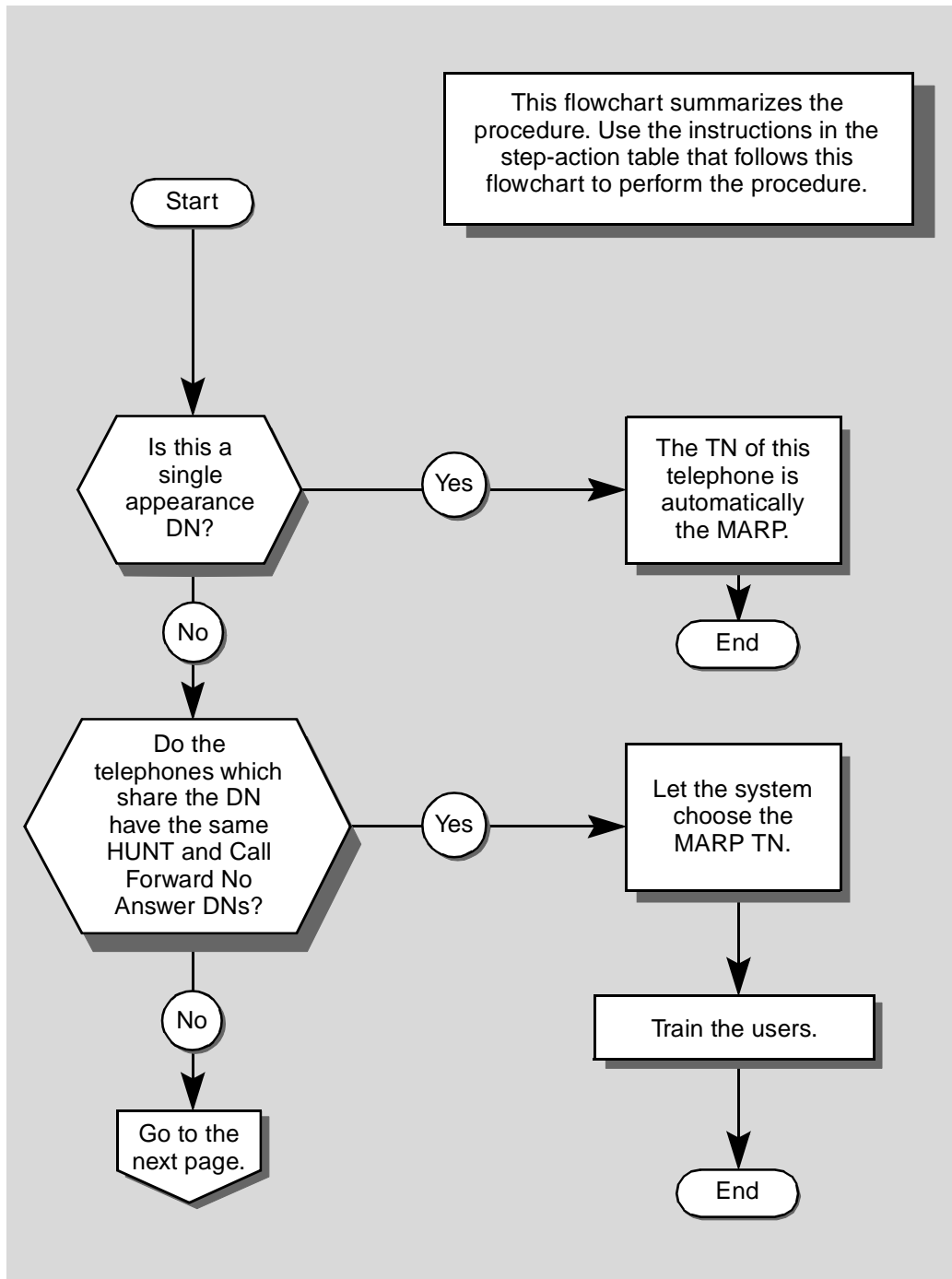
Basic	Optional	Preparation
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		With Release 18, for all DN's, there is a MARP TN. Decide what TN you want to designate as the MARP, in shared DN situations.
✓		Train the users.

What's next?

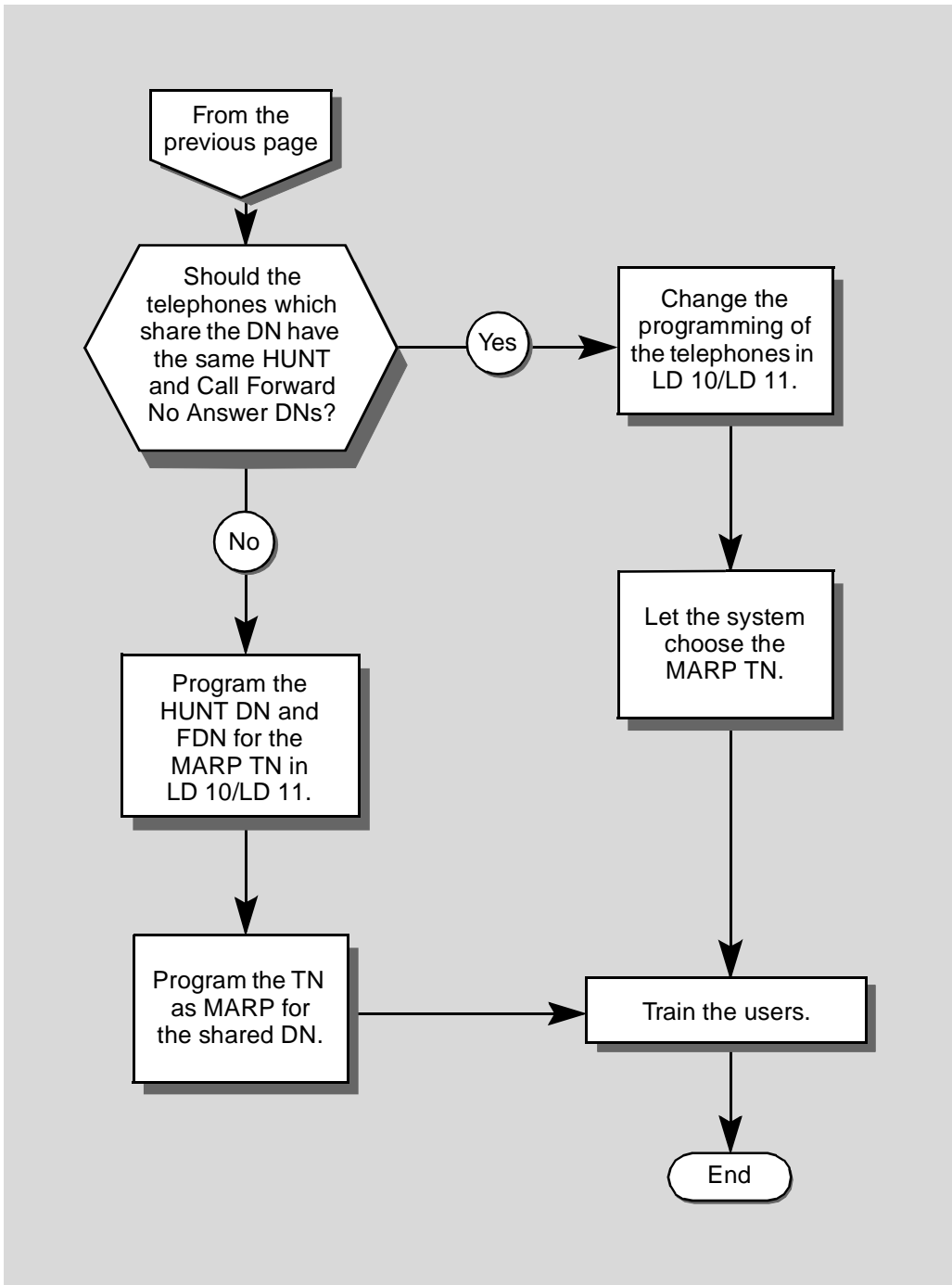
A flowchart follows which summarizes the implementation decisions and procedures for MARP.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Multiple Appearance DN Redirection Prime



Multiple Appearance DN Redirection Prime



Multiple Appearance DN Redirection Prime

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Multiple Appearance DN Redirection Prime feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP ACTION

1 Obtain a DN Block printout.

Log in. Use LD 20 or LD 22. For more information, refer to the *Basic programming instructions* module in this book.

If	Do
you are programming a new telephone	Print a DN Block for the DN(s) you want to use. If there are other telephones with this DN, note the TN which is the MARP. Print TN Blocks for the TNs in the printout. Note the programming for Hunting and Call Forward No Answer. Refer to Tasks 38 and 37, if you need more information. Go to step 2.
you are changing the DN(s) of a telephone	Print DN Blocks for the old and new DN(s). Note the TN which is MARP. Print TN Blocks for the TNs which shared the old DN and any which have the new DN. If you are changing the DN of an existing MARP TN, decide which TN to designate as the new MARP. Go to step 2.
you want to make an existing telephone the MARP TN	step 11 for a dial or Digitone-type telephone step 22 for a digital or SL-1-type telephone

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION
2	Choose your next step from the choices below.
If	Do
programming a new dial or Digitone-type telephone with a Single Appearance DN	step 3
programming a new dial or Digitone-type telephone with a Multiple Appearance DN	step 4
changing the DN of a dial or Digitone-type telephone to a new Single Appearance DN	step 5
changing the DN of a dial or Digitone-type telephone to a new Multiple Appearance DN	step 8
programming a new digital or SL-1-type telephone with a Single Appearance DN	step 14
programming a new digital or SL-1-type telephone with a Multiple Appearance DN	step 15
changing the DN of a digital or SL-1-type telephone to a new Single Appearance DN	step 16
changing the DN of a digital or SL-1-type telephone to a new Multiple Appearance DN	step 19
— continued —	

Multiple Appearance DN Redirection Prime

STEP	ACTION	
3	Program a new dial or Digitone-type telephone with a Single Appearance DN.	
	<pre>> LD 10</pre>	
	REQ	NEW Program a new telephone
	TYPE	500 Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	input the basic data until you see the prompt DN	
	DN	X . . X Input the new DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later
	_MARP	This message prints out to indicate this is the MARP TN for this new DN.
	Go to step 25.	
— continued —		

Multiple Appearance DN Redirection Prime

STEP	ACTION	
4	Program a new dial or Digitone-type telephone with a Multiple Appearance DN.	
	<pre>> LD 10</pre>	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	input the basic data until you see the prompt DN	
	DN X..X	Input the new DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later
	-MARP ON TN L S C U	This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.
	-MARP NO	Input NO, if you want to leave the existing TN as the MARP — this is default
	YES	Input YES, if you want the telephone you are programming to become the MARP
	If you input YES, a message prints out to indicate that a MARP has changed.	
	SCH5524 DN X..X NEW MARP L S C U	
	X..X represents the new DN	
	L S C U represents the L oop number, S helf number, C ard number, U nit number of this telephone	
	Go to step 25.	
— continued —		

Multiple Appearance DN Redirection Prime

STEP ACTION

5 Change the DN of a dial or Digitone-type telephone to a new Single Appearance DN.

> LD 10

REQ	CHG	Program a change on an existing telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)

ECHG

If

Do

using "Easy Change"

Input YES and go to step 6.

not using "Easy Change"

Input NO or <cr> and go to step 7.

For more information on "Easy Change," refer to the *Basic programming instructions* module of this book.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION
6	Program an “Easy Change” to an existing dial or Digitone-type telephone to change the DN.
ITEM	DN X . . X Change the Directory Number X..X represents the new DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later
-MARP	This message prints out to indicate this is the MARP TN for this new DN. If this telephone was the MARP TN for the old DN, a SCH 5524 message prints out. It indicates the new MARP TN for the old DN, if there are other appearances of it.
	Go to step 25.
7	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to change the DN.
DN	X . . X Input the new DN X..X represents the new DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later
-MARP	This message prints out to indicate this is the MARP TN for this new DN. If this telephone was the MARP TN for the old DN, a SCH 5524 message prints out. It indicates the new MARP TN for the old DN, if there are other appearances of it.
	Go to step 25.
— continued —	

Multiple Appearance DN Redirection Prime

STEP	ACTION	
8	Change the DN of a dial or Digitone-type telephone to a new Multiple Appearance DN.	
	<p>> LD 10</p> <p>REQ CHG Program a change on an existing telephone</p> <p>TYPE 500 Dial or Digitone-type telephone</p> <p>TN L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)</p> <p>ECHG</p> <p>If Do</p> <hr/> <p>using "Easy Change" Input YES and go to step 9.</p> <p>not using "Easy Change" Input NO or <cr> and go to step 10.</p> <p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p>	
9	Program an "Easy Change" to an existing dial or Digitone-type telephone to change the DN.	
	<p>ITEM DN X..X Change the Directory Number</p> <p>X..X represents the new DN</p> <p>1–4 digits prior to Release 13</p> <p>1–7 digits Release 13 and later</p>	
— continued —		

Multiple Appearance DN Redirection Prime

STEP	ACTION
9 continued ...	
	<p>_MARP ON TN L S C U This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.</p> <p>_MARP NO Input NO, if you want to leave the existing TN as the MARP — this is default.</p> <p>YES Input YES, if you want the telephone you are programming to become the MARP.</p> <p>If you input YES, a message prints out to indicate that a MARP has changed.</p> <p>SCH5524 DN X..X NEW MARP L S C U X..X represents the new DN L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone</p> <p>Go to step 25.</p>
10	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to change the DN.
	<p>DN X..X Input the new DN. X..X represents the new DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later</p> <p>_MARP ON TN L S C U This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.</p> <p>_MARP NO Input NO, if you want to leave the existing TN as the MARP — this is default</p> <p>YES Input YES, if you want the telephone you are programming to become the MARP.</p> <p>If you input YES, a message prints out to indicate that a MARP has changed.</p> <p>SCH5524 DN X..X NEW MARP L S C U X..X represents the new DN L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone</p> <p>Go to step 25.</p>
— continued —	

Multiple Appearance DN Redirection Prime

STEP	ACTION															
11	<p>Change a dial or Digitone-type telephone to become the MARP TN.</p> <pre>> LD 10</pre> <table> <tr> <td>REQ</td> <td>CHG</td> <td>Program a change on an existing telephone</td> </tr> <tr> <td>TYPE</td> <td>500</td> <td>Dial or Digitone-type telephone</td> </tr> <tr> <td>TN</td> <td>L S C U</td> <td>Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)</td> </tr> </table> <p>ECHG</p> <table> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>using "Easy Change "</td> <td>Input YES and go to step 12.</td> </tr> <tr> <td>not using "Easy Change"</td> <td>Input NO or <cr> and go to step 13.</td> </tr> </table> <p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p>	REQ	CHG	Program a change on an existing telephone	TYPE	500	Dial or Digitone-type telephone	TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)	If	Do	using "Easy Change "	Input YES and go to step 12.	not using "Easy Change"	Input NO or <cr> and go to step 13.
REQ	CHG	Program a change on an existing telephone														
TYPE	500	Dial or Digitone-type telephone														
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)														
If	Do															
using "Easy Change "	Input YES and go to step 12.															
not using "Easy Change"	Input NO or <cr> and go to step 13.															
12	<p>Program an "Easy Change" to an existing dial or Digitone-type telephone to change it to the MARP TN.</p> <table> <tr> <td>ITEM</td> <td>MARP YES</td> <td>This telephone becomes the MARP TN.</td> </tr> </table> <p>A message prints out to indicate that a MARP has changed.</p> <pre>SCH5524 DN X..X NEW MARP L S C U</pre> <p>X..X represents the DN</p> <p>L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone</p> <p>Go to step 25.</p>	ITEM	MARP YES	This telephone becomes the MARP TN.												
ITEM	MARP YES	This telephone becomes the MARP TN.														
— continued —																

Multiple Appearance DN Redirection Prime

STEP	ACTION	
13	Program a change (not an “Easy Change”) to an existing dial or Digitone-type telephone to change it to the MARP TN.	
	DN X . . X	Input the existing DN X..X represents the DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later
	_MARP ON TN L S C U	This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.
	_MARP YES	Input YES, if you want the telephone you are programming to become the MARP
	If you input YES, a message prints out to indicate that a MARP has changed.	
	SCH5524 DN X..X NEW MARP L S C U	X..X represents the new DN L S C U represents the L oop number, S helf number, C ard number, U nit number of this telephone
	Go to step 25.	
14	Program a new digital or SL-1-type telephone with a Single Appearance DN.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
	input the basic data until you see the prompt KEY	
— continued —		

Multiple Appearance DN Redirection Prime

STEP ACTION

14 continued ...

Program the key(s) one of the following ways:

XX represents the key number (0–69)
key 0 must be programmed with a DN

KEY XX SCR X . . X

SCR — single call ringing DN

KEY XX SCN X . . X

SCN — single call non-ringing DN

Multiple Call DN's apply to this step when this is the first appearance of the DN programmed so far.

KEY XX MCR X . . X

MCR — multiple call ringing DN

KEY XX MCN X . . X

MCN — multiple call non-ringing DN

X..X represents the digits in the DN

The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.

MARP

This message prints out to indicate this is the MARP TN for this new DN.

KEY

Repeat the process above until all necessary DN's are programmed on available keys.

Go to step 25.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION
15	<p>Program a new digital or SL-1-type telephone with a Multiple Appearance DN</p> <pre>> LD 11</pre> <p>REQ NEW Program a new telephone</p> <p>TYPE Input correct type of SL-1 or digital telephone</p> <p>TN L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)</p> <p>program the basics... Refer to Tasks 7–19 for information.</p> <p>input the basic data until you see the prompt KEY</p> <p>Program the key(s) one of the following ways:</p> <p>KEY XX SCR X..X XX represents the key number (0–69) key 0 must be programmed with a DN SCR — single call ringing DN</p> <p>KEY XX SCN X..X SCN — single call non-ringing DN</p> <p>KEY XX MCR X..X MCR — multiple call ringing DN</p> <p>KEY XX MCN X..X MCN — multiple call non-ringing DN</p> <p>X..X represents the digits in the DN</p> <p>The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.</p> <p style="text-align: center;">— continued —</p>

Multiple Appearance DN Redirection Prime

STEP ACTION

15 continued ...

_MARP ON TN L S C U

This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.

_MARP NO

Input NO, if you want to leave the existing TN as the MARP — this is default

YES

Input YES, if you want the telephone you are programming to become the MARP

If you input YES, a message prints out to indicate that a MARP has changed.

SCH5524 DN X..X NEW MARP L S C U

X..X represents the new DN

L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone

Go to step 25.

16 Change a DN on a digital or SL-1-type telephone to a new Single Appearance DN.

> LD 11

REQ CHG

Program a change on an existing telephone

TYPE

Input correct type of SL-1 or digital telephone

TN L S C U

Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)

ECHG

If

Do

using "Easy Change"

Input YES and go to step 17.

not using "Easy Change"

Input NO or <cr> and go to step 18.

For more information on "Easy Change," refer to the *Basic programming instructions* module of this book.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION
17	<p>Program an “Easy Change” to an existing digital or SL-1-type telephone to change the DN.</p> <p>Program the key(s) one of the following ways:</p> <p>ITEM XX represents the key number (0–69) key 0 must be programmed with a DN</p> <p>ITEM KEY XX SCR X . . X SCR — single call ringing DN</p> <p>ITEM KEY XX SCN X . . X SCN — single call non-ringing DN</p> <p>Multiple Call DN's apply to this step when this is the first appearance of the DN programmed so far.</p> <p>ITEM KEY XX MCR X . . X MCR — multiple call ringing DN</p> <p>ITEM KEY XX MCN X . . X MCN — multiple call non-ringing DN</p> <p>X..X represents the digits in the DN</p> <p>The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.</p> <p><u>MARP</u> This message prints out to indicate this is the MARP TN for this new DN.</p> <p>If this telephone was the MARP TN for the old DN, a SCH 5524 message prints out. It indicates the new MARP TN for the old DN, if there are other appearances of it.</p> <p>ITEM KEY Repeat the process above until all necessary DN's are programmed on available keys.</p> <p>Go to step 25.</p>
— continued —	

Multiple Appearance DN Redirection Prime

STEP ACTION

18 Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to change the DN.

carriage return until you see the prompt KEY

Program the key(s) one of the following ways:

XX represents the key number (0–69)
key 0 must be programmed with a DN

KEY XX SCR X..X SCR — single call ringing DN

KEY XX SCN X..X SCN — single call non-ringing DN

Multiple Call DN's apply to this step when this is the first appearance of the DN programmed so far.

KEY XX MCR X..X MCR — multiple call ringing DN

KEY XX MCN X..X MCN — multiple call non-ringing DN

X..X represents the digits in the DN

The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.

MARP

This message prints out to indicate this is the MARP TN for this new DN.

If this telephone was the MARP TN for the old DN, a SCH 5524 message prints out. It indicates the new MARP TN for the old DN, if there are other appearances of it.

KEY

Repeat the process above until all necessary DN's are programmed on available keys.

Go to step 25.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION	
19	Change the DN of a digital or SL-1-type telephone to a new Multiple Appearance DN.	
	> LD 11	
	REQ	CHG Program a change on an existing telephone
	TYPE	Dial or Digitone-type telephone
	TN	L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 20.
	not using "Easy Change"	Input NO or <cr> and go to step 21.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
20	Program an "Easy Change" to an existing digital or SL-1-type telephone to change the DN.	
	ITEM	Program the key(s) one of the following ways: XX represents the key number (0–69) key 0 must be programmed with a DN
	ITEM KEY XX SCR X..X	SCR — single call ringing DN
	ITEM KEY XX SCN X..X	SCN — single call non-ringing DN
	ITEM KEY XX MCR X..X	MCR — multiple call ringing DN
	ITEM KEY XX MCN X..X	MCN — multiple call non-ringing DN
	X..X represents the digits in the DN	
	The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.	
	— continued —	

Multiple Appearance DN Redirection Prime

STEP ACTION

20 continued ...

_MARP ON TN L S C U This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.

_MARP NO Input NO, if you want to leave the existing TN as the MARP — this is default

YES Input YES, if you want the telephone you are programming to become the MARP

If you input YES, a message prints out to indicate that a MARP has changed.

SCH5524 DN X..X NEW MARP L S C U

X..X represents the new DN

L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone

Go to step 25.

21 Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to change the DN.

carriage return until you see the prompt KEY

Program the key(s) one of the following ways:

XX represents the key number (0–69)
key 0 must be programmed with a DN

KEY XX SCR X..X SCR — single call ringing DN

KEY XX SCN X..X SCN — single call non-ringing DN

KEY XX MCR X..X MCR — multiple call ringing DN

KEY XX MCN X..X MCN — multiple call non-ringing DN

X..X represents the digits in the DN

The DN can be 1–7 digits with DNX software package or 1–4 digits without DNX.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION	
21 continued ...		
	_MARP ON TN L S C U	This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.
	_MARP NO	Input NO, if you want to leave the existing TN as the MARP — this is default
	YES	Input YES, if you want the telephone you are programming to become the MARP
	If you input YES, a message prints out to indicate that a MARP has changed.	
	SCH5524 DN X..X NEW MARP L S C U	X..X represents the new DN L S C U represents the L oop number, S helf number, C ard number, U nit number of this telephone
	Go to step 25.	
22	Change a digital or SL-1-type telephone to become the MARP TN.	
	> LD 11	
	REQ CHG	Program a change on an existing telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 23.
	not using "Easy Change"	Input NO or <cr> and go to step 24.
	For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
— continued —		

Multiple Appearance DN Redirection Prime

STEP ACTION

23 Program an “Easy Change” to an existing digital or SL-1-type telephone to change it to the MARP TN.

ITEM MARP YES This telephone becomes the MARP TN.

A message prints out to indicate that a MARP has changed.

SCH5524 DN X..X NEW MARP L S C U

X..X represents the DN

L S C U represents the **L**oop number, **S**helf number, **C**ard number, **U**nit number of this telephone

Go to step 25.

24 Program a change (not an “Easy Change”) to an existing digital or SL-1-type telephone to change it to the MARP TN.

carriage return until you see the prompt KEY

Program the key(s) one of the following ways:

XX represents the key number (0–69)
key 0 must be programmed with a DN

KEY XX SCR X..X SCR — single call ringing DN

KEY XX SCN X..X SCN — single call non-ringing DN

KEY XX MCR X..X MCR — multiple call ringing DN

KEY XX MCN X..X MCN — multiple call non-ringing DN

X..X represents the digits in the DN

The DN can be 1–7 digits with DNXP software package or 1–4 digits without DNXP.

— continued —

Multiple Appearance DN Redirection Prime

STEP	ACTION						
24 continued ...							
	<p>_MARP ON TN L S C U</p> <p>This message prints out to indicate the TN (Loop number, Shelf number, Card number, Unit number) that is the MARP for the DN now.</p> <p>_MARP YES Input YES, if you want the telephone you are programming to become the MARP</p> <p>A message prints out to indicate that a MARP has changed.</p> <p>SCH5524 DN X..X NEW MARP L S C U</p> <p>X..X represents the new DN</p> <p>L S C U represents the Loop number, Shelf number, Card number, Unit number of this telephone</p> <p>Go to step 25.</p>						
25	Finish the overlay program.						
	<p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p>						
26	Check that the programming which you have just done is correct.						
	<p>Place a call to the DN and let it ring with no answer. Make sure the expected treatment happens.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 27</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 27	feature does not work properly	step 1
If	Do						
feature works properly	step 27						
feature does not work properly	step 1						
— continued —							

Multiple Appearance DN Redirection Prime

STEP ACTION

27 Arrange for a data dump to be performed.

If

you do not have access
to LD 43

you have access to
LD 43

Do

Contact your system supplier.

step 28

28 Perform a data dump to permanently store the programming you have just completed.


CAUTION

Check your maintenance agreement
before working in LD 43.

Refer to the *Basic programming instructions* module in this book or refer to the *X11 input/output guide* for more information on LD 43.

> LD 43

. EDD <cr>

— continued —

Multiple Appearance DN Redirection Prime

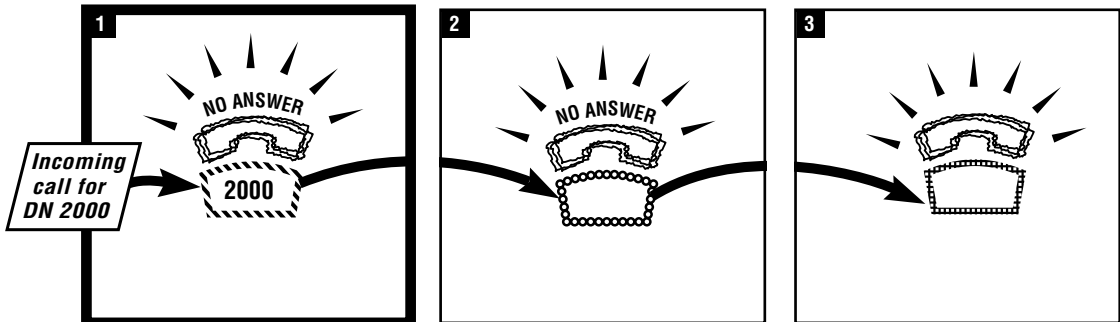
STEP	ACTION								
29	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <tr> <td>If</td> <td>Do</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 30</td> </tr> </table>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 30
If	Do								
.....								
data dump fails	Contact your system supplier.								
data dump succeeds	step 30								
30	<p>Terminate this overlay program.</p> <p>. ****</p>								
31	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>								
32	<p>You have completed the programming required to add or change the Multiple Appearance DN Redirection Prime feature on a telephone.</p>								



Second Level Call Forward No Answer

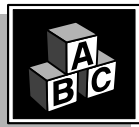
Purpose

When a call is not answered at a Directory Number (DN), the regular Call Forward No Answer feature redirects it to another Directory Number. If the call is not answered there either, and the Second Level Call Forward No Answer feature is enabled, the call is redirected again.



553-0098T SFA

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ what happens when the feature is enabled
- ◆ what you need to know to manage interactions with other features

Second Level Call Forward No Answer

Setting up the feature

Second Level Call Forward No Answer comes with the communication system, but the telephones do not come programmed to use the capability. You select the telephones that are to have Second Level Call Forward No Answer allowed, then you use the procedure in this module to program each one.

In *X11 features and services*, this feature is called Call Forward No Answer, Second Level.

This feature is an enhancement of the basic Call Forward No Answer feature. You must ensure that the basic Call Forward No Answer prerequisite programming has been done before you proceed. If you need more information, refer to Task 37, *Call Forward No Answer*.

Table 236
Software requirements

Release required	Software package(s) required
10	none

Programming the Customer Data Block (LD 15)

It is necessary to program customer-wide parameters for both Call Forward No Answer and Second Level Call Forward No Answer. They are:

- ◆ a setting in LD 15, the Customer Data Block, that determines the number of times a telephone will ring before a call will forward
- ◆ the Call Forward No Answer treatments for different types of calls

Number of rings

The default setting is four rings before a call forwards. If you use the default setting, a call will ring a total of eight times before it will forward to the third telephone (four times at the first telephone and four times at the second telephone).

Second Level Call Forward No Answer

Call types

The three call types for the Customer group are:

- ◆ DID
- ◆ internal
- ◆ external trunk (non-DID)

Before Release 10, there are only two call types for the customer group:

- ◆ DID
- ◆ non-DID

Treatment when calls are not answered

There are four choices of treatments for each call-type. They are None (NO), Attendant (ATT), Hunt (HNT), and Flexible DN (FDN). There is more information on these treatments in Task 37, *Call Forward No Answer*.



The Second Level Call Forward No Answer feature can only be implemented when either HNT or FDN is chosen for treatments.

Programming the telephones

You must enable the Call Forward No Answer feature in the Class of Service of the originally dialed telephone. You must program a redirection DN for this telephone as follows:

- ◆ if the LD 15 treatments are HNT, you must program a Hunt DN
- ◆ if the LD 15 treatments are FDN, you must program an FDN



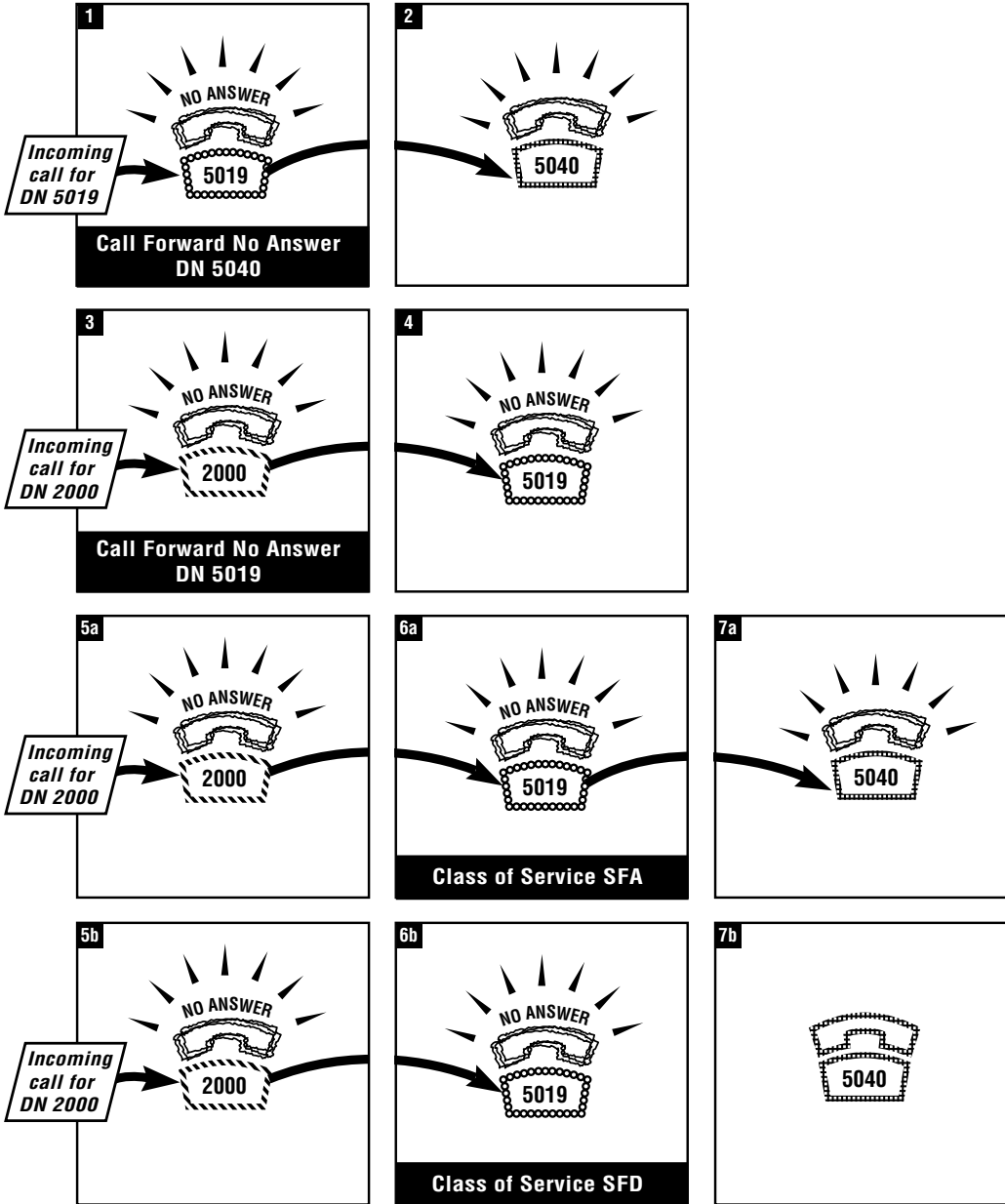
You must enable the Call Forward No Answer feature along with the Second Level Call Forward No Answer feature in the Class of Service of the second ringing telephone.

You must program the DN to which unanswered calls will be sent as follows:

- ◆ if the LD 15 treatments are HNT, you must program a Hunt DN
- ◆ if the LD 15 treatments are FDN, you must program an FDN

Second Level Call Forward No Answer

Class of Service programming



553-0278T SFA

Second Level Call Forward No Answer

What happens if the third telephone is not answered?

After a call has forwarded twice, and it is still not answered, one of two things can occur.

- ◆ If the original call was transferred by an attendant, the call recalls to an attendant.
- ◆ If the call is coming in on a DID trunk or is made by an internal caller, the third telephone continues to ring until it is answered, or the caller hangs up.

The call is never forwarded a third time, even if the third telephone has Call Forward No Answer allowed and Second Level Call Forward No Answer allowed.

Using the feature

Refer to the illustrations and text prior to this section for information on the use of this feature.

Interactions with other features

Second Level Call Forward No Answer works with, affects, or is affected by several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Second Level Call Forward No Answer

Message Waiting interacts with Second Level Call Forward No Answer

If your system uses a software Release between 10 and 14 inclusive, you cannot enable both Message Waiting and Second Level Call Forward No Answer in the Class of Service of one telephone. What happens is, if the call forwards a second time to a telephone which is a Message Center, when the person at the Message Center activates the Message Indication key to tell the originally dialed person there is a message for them, the Message Waiting indicator lights up on the second telephone, not the originally dialed telephone.

With Release 15 and later, you can program both features in the Class of Service of one telephone. The Message Waiting indicator lights up on the correct telephone when the Message Center activates the Message Indication key.

Attendant Queues and ACD queues interact with Second Level Call Forward No Answer

If a call has been redirected to one of these types of queues by the Call Forward No Answer feature, Second Level Call Forward No Answer will not forward the call again if the call is not answered from the queue within the pre-programmed number of rings. Other programmable features can redirect calls for attendant queues and ACD queues.

Distinctive Ringing interacts with Second Level Call Forward No Answer

There is a setting in the Customer Data Block (LD 15) for the number of Distinctive ringing cycles before an unanswered call forwards. If you are using Distinctive Ringing on your trunk groups, then calls which ring telephones distinctively and go unanswered can be forwarded twice because of Second Level Call Forward No Answer.

Second Level Call Forward No Answer

Call Forward All Calls interacts with Second Level Call Forward No Answer

The following example illustrates an important interaction between these two features.



User A calls telephone B. Telephone B is in Call Forward All Calls mode, redirecting calls to telephone C. If user C does not answer, *the call redirects to the Call Forward No Answer DN of telephone B, since that was the originally dialed DN. If telephone C is the Call Forward No Answer DN of telephone B, then telephone C continues to ring and does not forward, even if Second Level Call Forward No Answer is allowed.*

Second Level Call Forward No Answer only works when the originally dialed DN rings no answer and is not in a Call Forward All Calls mode.

Second Level Call Forward No Answer

Call Forward by Call Type - Call Forward No Answer interacts with Second Level Call Forward No Answer

On systems where telephones have Call Forward by Call Type allowed in their Class of Service, calls are tagged with a call-type based on their origin.

If the call is tagged as an external call-type, then it forwards to the external Call Forward No Answer DN programmed at the ringing telephone which is not answered. If that call is not answered at a second telephone, one that has Second Level Call Forward No Answer programmed, the call forwards to its external Call Forward No Answer DN, if that telephone also has Call Forward by Call Type allowed.

User Selectable Call Redirection interacts with Second Level Call Forward No Answer

This feature can be used at individual telephones to change the number of rings before a call is treated as unanswered and forwarded. If one user chooses a Ringing Cycle Option defined as four rings and another chooses an option defined as two rings, then if the two telephones are involved in a Second Level Call Forward No Answer call, the call rings a total of six times before it forwards to the third telephone, four times at the first telephone and twice at the second telephone.

Multiple Appearance DNs interact with Second Level Call Forward No Answer

Refer to Task 37, *Call Forward No Answer* for information on the way the system deals with no answer situations on a DN which appears on more than one telephone or key. The method used by the system changed as of Release 18. With Release 18, you can program one of the telephones to act as the prime appearance for call redirection related features for all of the other appearances. The system uses the programming of the Multiple Appearance Redirection Prime (MARP) telephone to redirect calls when there is no answer at the shared DN. If the MARP telephone has Second Level Call Forward No Answer allowed, then unanswered calls can forward one more time to the DN programmed at the MARP telephone.

Second Level Call Forward No Answer

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist which follows under *What to have ready* to confirm that you have what you need.

Control tips



- ◆ Before you implement Second Level Call Forward No Answer, assess the impact of this on your callers. Calculate, based on the setting in your Customer Data Block, how many times a call will ring if it redirects to three different telephones waiting for an answer. Assess whether your callers will wait that long or whether it is better to forward initially to a DN that is always attended, or even to Voice Mail.
- ◆ It might be advisable to talk to your staff and let them know that you do not want them to leave their telephones ringing unanswered and to rely too often on forwarding.
- ◆ As another alternative, you might want to change the setting in the Customer Data Block to lower the number of rings before calls forward.
- ◆ If you have the User Selectable Call Redirection feature on your system, you might need to program the three Ringing Cycle Options so that no matter which option users choose, the total number of rings after two redirections is still an acceptable number.

Second Level Call Forward No Answer

Administration tips



- ◆ When you do station reviews with users, before you program their telephones, ensure that the person at the third telephone is prepared to answer calls for the original DN and the second DN which is redirecting calls to that third telephone.
- ◆ When users hear a telephone ring nearby, they expect it to forward calls when it is not answered. If the call has already forwarded twice, this will not happen. If the call has only forwarded once, calls will be forwarded again. When the telephone rings, users nearby do not know how many times the call might have been forwarded before getting to that telephone. Tell users about this interaction so they will not report this as a problem.

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Tell users about how Second Level Call Forward No Answer interacts with other features they might use. By doing this you reduce the number of repair calls reported and improve user efficiency.

Second Level Call Forward No Answer

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 237
Checklist

Basic	Optional	Preparation
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Verify the number of rings for the Call Forward No Answer setting in LD 15.
✓		Verify the treatments for the call types programmed in LD 15.
✓		Find out the DN the user wants for Call Forward No Answer. Determine if that is suitable as a second level forwarding DN for the first DN in the forwarding chain.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same Call Forward No Answer DN for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs and require different Call Forward No Answer DNs for each telephone, decide on the MARP TN which is appropriate for the group's needs.
	✓	Prepare your training information, and materials. Plan the way you want to address interactions.
	✓	If Call Forward by Call Type is allowed on the second telephone in the forwarding chain, decide what DNs to use for the second level of forwarding for internal and external calls.
	✓	If User Selectable Call Redirection is allowed, select the three Ringing Cycle Options which work best when Second Level Call Forward No Answer operates.

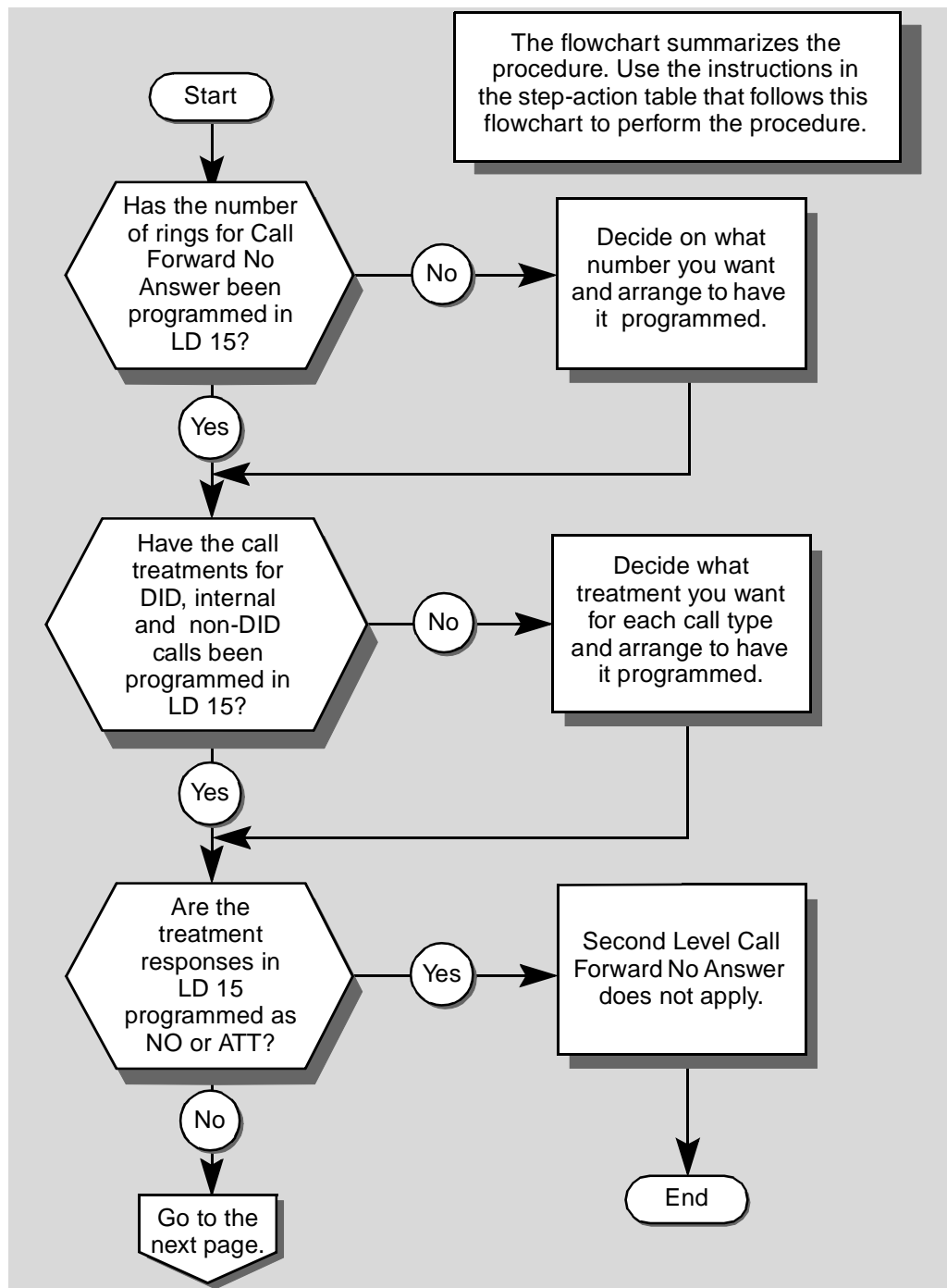
Second Level Call Forward No Answer

What's next?

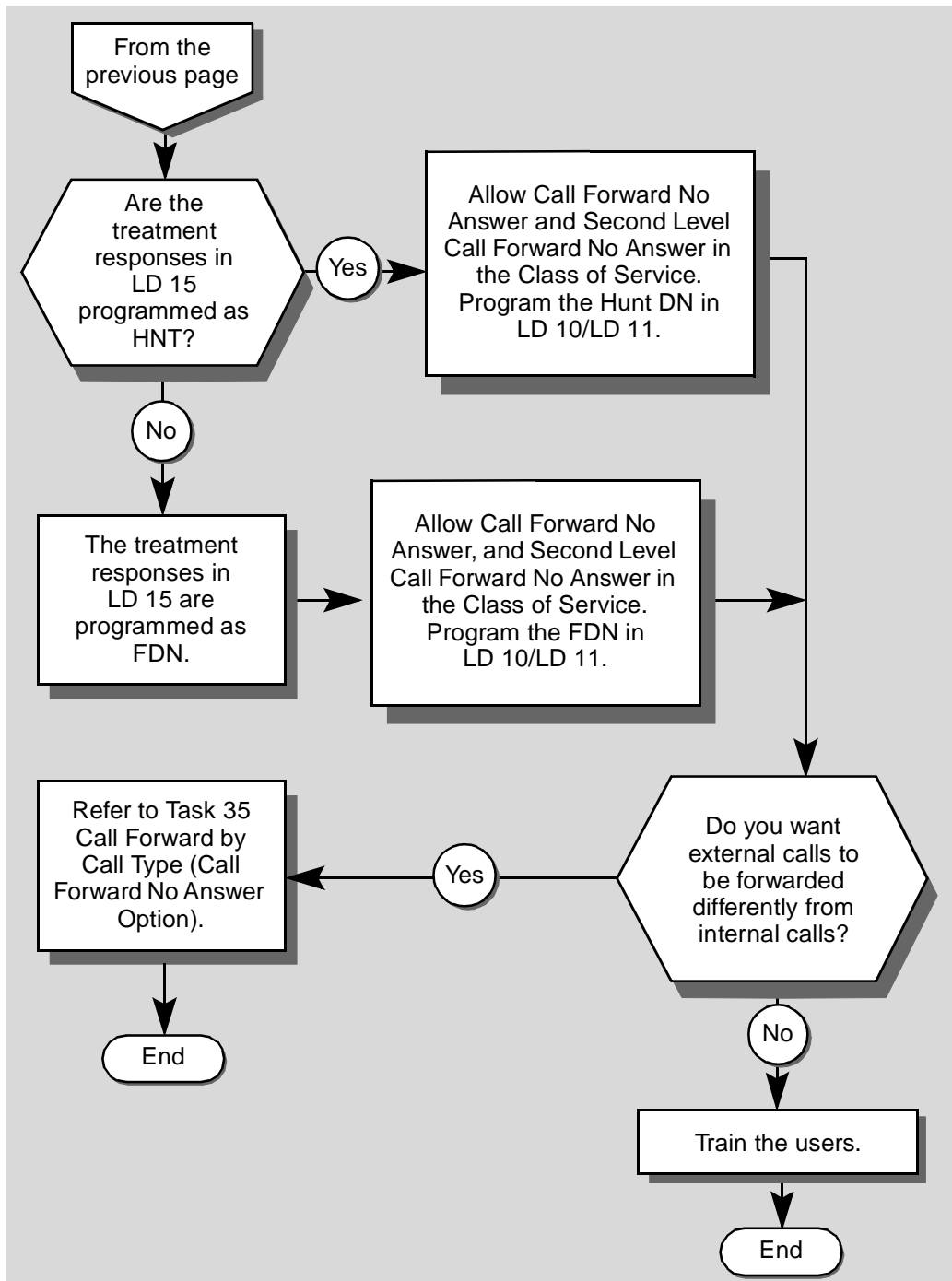
A flowchart follows which summarizes the implementation decisions and procedures.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

Second Level Call Forward No Answer



Second Level Call Forward No Answer



Second Level Call Forward No Answer

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the Second Level Call Forward No Answer feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION	
1	Choose your starting point from the choices below.	
	If	Do
	new telephone	step 2
	change to an existing telephone	step 13
2	Check that the number of rings for a “no answer” has been programmed.	
	The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.	
	If	Do
	not programmed	Ask your system supplier to program it. Go to step 3.
	programmed	step 3
	programmed but not acceptable for Second Level forwarding	Ask your system supplier to change LD 15. Go to step 3.
— continued —		

Second Level Call Forward No Answer

STEP	ACTION										
3	<p>Check that the call treatments for all call-types on your system have been programmed.</p> <p>The programming for this, in LD 15, the Customer Data Block, is beyond the scope of this book.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>programmed but not acceptable for Second Level forwarding</td> <td>Ask your system supplier to change the LD 15 programming for each call-type to HNT or FDN, whichever suits your needs best. Go to step 4.</td> </tr> <tr> <td>programmed and acceptable for Second Level forwarding</td> <td>step 4</td> </tr> <tr> <td>not programmed</td> <td>Decide what treatments (HNT or FDN) suit your needs best and ask your system supplier to program a treatment for each call-type. Go to step 4.</td> </tr> </tbody> </table>	If	Do	programmed but not acceptable for Second Level forwarding	Ask your system supplier to change the LD 15 programming for each call-type to HNT or FDN, whichever suits your needs best. Go to step 4.	programmed and acceptable for Second Level forwarding	step 4	not programmed	Decide what treatments (HNT or FDN) suit your needs best and ask your system supplier to program a treatment for each call-type. Go to step 4.		
If	Do										
programmed but not acceptable for Second Level forwarding	Ask your system supplier to change the LD 15 programming for each call-type to HNT or FDN, whichever suits your needs best. Go to step 4.										
programmed and acceptable for Second Level forwarding	step 4										
not programmed	Decide what treatments (HNT or FDN) suit your needs best and ask your system supplier to program a treatment for each call-type. Go to step 4.										
4	<p>Choose your next step from the choices below.</p> <p>The treatments programmed in LD 15 affect what, if any, programming you must do in LD 10 and LD 11, the telephone overlay programs.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>treatments are NO</td> <td>Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Second Level Call Forward No Answer is not possible. Your task is complete.</td> </tr> <tr> <td>treatments are ATT</td> <td>Second Level Call Forward No Answer is not possible. Have your system supplier change the treatments to FDN or HNT if you want the feature.</td> </tr> <tr> <td>treatments are HNT</td> <td>step 5</td> </tr> <tr> <td>treatments are FDN</td> <td>step 6</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	treatments are NO	Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Second Level Call Forward No Answer is not possible. Your task is complete.	treatments are ATT	Second Level Call Forward No Answer is not possible. Have your system supplier change the treatments to FDN or HNT if you want the feature.	treatments are HNT	step 5	treatments are FDN	step 6
If	Do										
treatments are NO	Leave telephone Class of Service as default, FND, Call Forward No Answer denied. Second Level Call Forward No Answer is not possible. Your task is complete.										
treatments are ATT	Second Level Call Forward No Answer is not possible. Have your system supplier change the treatments to FDN or HNT if you want the feature.										
treatments are HNT	step 5										
treatments are FDN	step 6										

Second Level Call Forward No Answer

STEP	ACTION								
5	<p>Find out what telephones forward calls to this telephone.</p> <p>Do a TNB printout of the telephones. Refer to the <i>Basic programming instructions</i> module in this book for more information. Look for telephones where:</p> <ul style="list-style-type: none"> — the Hunt DN is the DN of this telephone — the EHT is the DN of this telephone (if CFTA in Class of Service) <p>Go to step 7.</p>								
6	<p>Find out what telephones forward calls to this telephone.</p> <p>Do a TNB printout of the telephones. Refer to the <i>Basic programming instructions</i> module in this book for more information. Look for telephones where:</p> <ul style="list-style-type: none"> — the FDN is the DN of this telephone — the EFD is the DN of this telephone (if CFTA in Class of Service) <p>Go to step 10.</p>								
7	<p>Program the new telephone so all unanswered calls forward to the Hunt DN and Second Level forwarding is allowed.</p> <p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>telephone is dial or Digitone-type</td> <td>step 8</td> </tr> <tr> <td>telephone is digital or SL-1-type</td> <td>step 9</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	telephone is dial or Digitone-type	step 8	telephone is digital or SL-1-type	step 9
If	Do								
.....								
telephone is dial or Digitone-type	step 8								
telephone is digital or SL-1-type	step 9								

Second Level Call Forward No Answer

STEP	ACTION	
8	Program the new dial or Digitone-type telephone so all unanswered calls forward to the Hunt DN and Second Level forwarding is allowed.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
	CLS FNA SFA	Call Forward No Answer allowed Second Level Call Forward No Answer allowed
	Go to step 20.	
— continued —		

Second Level Call Forward No Answer

STEP	ACTION	
9	Program the new digital or SL-1-type telephone so all unanswered calls forward to the Hunt DN and Second Level forwarding is allowed.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number of the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt CLS	
	CLS FNA SFA	Call Forward No Answer allowed Second Level Call Forward No Answer allowed
	carriage return until you see the prompt HUNT	
	HUNT X . . X	Input the DN to which calls are to forward and Hunt, if you are also allowing Hunting. X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 20.	
— continued —		

Second Level Call Forward No Answer

STEP	ACTION	
10	Program the new telephone so all unanswered calls forward to the flexible Call Forward No Answer DN and Second Level forwarding is allowed.	
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.	
	If	Do

	telephone is dial or Digitone-type	step 11
	telephone is digital or SL-1-type	step 12
11	Program the new dial or Digitone-type telephone so all unanswered calls forward to the FDN and Second Level forwarding is allowed.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
	carriage return until you see the prompt CLS	
	CLS FNA SFA	Call Forward No Answer allowed Second Level Call Forward No Answer allowed
	carriage return until you see the prompt FTR	
	FTR FDN X . . X	Input the DN to which calls are to forward, X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 20.	
	— continued —	

Second Level Call Forward No Answer

STEP	ACTION	
12	Program the new digital or SL-1-type telephone so all unanswered calls forward to the FDN and Second Level forwarding is allowed.	
	> LD 11	
REQ	NEW	Program a new telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt FDN	
FDN	X . . X	Input the DN to which calls are to forward. X..X represents a DN. 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt CLS	
CLS	FNA SFA	Call Forward No Answer allowed Second Level Call Forward No Answer allowed
	Go to step 20.	
— continued —		

Second Level Call Forward No Answer

STEP	ACTION	
13	Choose your next step from the choices below.	
	If	Do
	you want to change the number of rings before calls forward	Ask your system supplier to program the change in LD 15.
	you want to change the call treatments for any of the call types	Ask your system supplier to program the change in LD 15.
	you want to change a telephone from Second Level Call Forward No Answer denied to allowed	<p>Print out a TN Block for the telephone you are about to change. Refer to <i>Basic programming instructions</i> for help.</p> <p>Ensure that the pre-requisite Call Forward No Answer programming has been done. Ensure that FNA is programmed in the Class of Service and that there is an FDN programmed. If FDN does not appear, check for a HUNT DN. If these pre-requisites are not there, you must program them. Refer to Task 37, <i>Call Forward No Answer</i> for further information.</p> <p>When you have done this go to step 14.</p>
	you want to change a telephone from Second Level Call Forward No Answer allowed to denied	step 17
	you want to change the DN to which calls forward	Refer to Task 37, <i>Call Forward No Answer</i> .
— continued —		

Second Level Call Forward No Answer

STEP	ACTION	
14	Change the Class of Service of the telephone to allow Second Level Call Forward No Answer.	
	<p>Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.</p>	
	<p>> LD 10 or > LD 11</p>	
	REQ	CHG Program a change on an existing telephone
	TYPE	Input correct type of 500, digital, or SL-1-type telephone
	TN	L S C U Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG	
	If	Do
	using "Easy Change"	Input YES and go to step 15.
	not using "Easy Change"	Input NO or <cr> and go to step 16.
	<p>For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.</p>	
— continued —		

Second Level Call Forward No Answer

STEP	ACTION		
15	Program an “Easy Change” to an existing telephone to allow Second Level Call Forward No Answer.		
	ITEM	CLS SFA	Change Class of Service to allow Second Level Call Forward No Answer
	Go to step 20.		
16	Program a change (not an “Easy Change”) to an existing telephone to allow Second Level Call Forward No Answer.		
	carriage return until you see the prompt CLS		
	CLS	SFA	Second Level Call Forward No Answer allowed
	Go to step 20.		
17	Change the Class of Service of the telephone to deny Second Level Call Forward No Answer.		
	Log in. For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book. Check there also for the overlay program to use for the kind of telephone you are programming.		
	> LD 10 or > LD 11		
	REQ	CHG	Program a change on an existing telephone
	TYPE		Input correct type of 500, digital, or SL-1-type telephone
	TN	L S C U	Input the Terminal Number of the telephone (Loop number, Shelf number, Card number, Unit number)
	ECHG		
— continued —			


Second Level Call Forward No Answer

STEP	ACTION
<i>17 continued ...</i>	
If	Do
using "Easy Change "	Input YES and go to step 18.
not using "Easy Change"	Input NO or <cr> and go to step 19.
For more information on "Easy Change," refer to the <i>Basic programming instructions</i> module of this book.	
18	Program an "Easy Change" to an existing telephone to allow Second Level Call Forward No Answer.
ITEM CLS SFD	Change Class of Service to deny Second Level Call Forward No Answer
Go to step 20.	
19	Program a change (not an "Easy Change") to an existing telephone to deny Second Level Call Forward No Answer.
carriage return until you see the prompt CLS	
CLS SFA	Second Level Call Forward No Answer denied
Go to step 20.	
— continued —	


Second Level Call Forward No Answer

STEP	ACTION						
20	<p>Finish the overlay program.</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems or MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your Service Change has been entered into the memory.</p>						
21	<p>Check that the programming which you have just done is correct.</p> <p>Place calls to a telephone that forwards unanswered calls to the telephone you just programmed. Let it ring unanswered. Let the call forward and ring unanswered at the telephone you just programmed. Make sure the expected treatment happens.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 22</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table>	If	Do	feature works properly	step 22	feature does not work properly	step 1
If	Do						
feature works properly	step 22						
feature does not work properly	step 1						
22	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 23</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 23
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 23						
— continued —							

Second Level Call Forward No Answer

STEP	ACTION						
23	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
24	<p>Verify that the dump was successful.</p> <p>TTY response:</p> <p>NO GO BAD DATA</p> <p>or</p> <p>DATA DUMP COMPLETE</p> <table border="0" style="width: 100%; border-top: 1px dotted black;"> <thead> <tr> <th style="text-align: left; width: 50%;">If</th> <th style="text-align: left; width: 50%;">Do</th> </tr> </thead> <tbody> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 25</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	data dump fails	Contact your system supplier.	data dump succeeds	step 25
If	Do						
data dump fails	Contact your system supplier.						
data dump succeeds	step 25						

Second Level Call Forward No Answer

STEP	ACTION
25	Terminate this overlay program. . ****
26	Terminate this programming session. Log off. > LOGO
27	You have completed the programming required to add or change the Second Level Call Forward No Answer feature on a telephone.
	

1526 Redirecting calls

of 1776

Second Level Call Forward No Answer

User Selectable Call Redirection

Purpose

This feature allows telephone users to change two different things associated with the programming of their telephones.

- ◆ They can individually select and change the number of times the telephone rings before it forwards to another Directory Number (DN).

Users can choose different ringing options at different times, as their needs change. Or you might want this feature so that each user can choose the option that suits them best.

In different working environments in the same building, each user might have different requirements. Some users, in warehouse environments for example, prefer to let telephones ring for a long time in order to give people who work away from their desks a chance to answer. Other users, in office settings, prefer not to allow the telephone to ring for too long to reduce the amount of noise in the office.

- ◆ It also allows the user to change the DN(s) to which calls go when the telephone rings with no answer and when it is busy.

All of these changes can be made from the telephone itself.

User Selectable Call Redirection

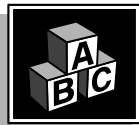
User changing redirection DNs



553-0100T USCR

User Selectable Call Redirection

Basic feature configuration



This part tells you:

- ◆ how the feature has to be set up to make basic feature operation possible
- ◆ how a person uses the User Selectable Call Redirection feature
- ◆ what you need to know to manage interactions with other features

Setting up the feature

You select the telephones that are to have the User Selectable Call Redirection (USCR) capability, then you use the procedure in this module to program each one.

You must meet the following software requirements.

Table 238
Software requirements

Release required	Software package(s) required
19	139 – Flexible Feature codes (FFC)

Ringling Cycle Options

This feature gives telephone users a choice between three different ringing options. These options determine how many times the telephone will ring before the Call Forward No Answer feature redirects the call to another DN.

You must program, on a customer group basis, how many times the telephones will ring for the three different options.

You must also program the default ringing option for each telephone. This determines the number of times it rings before forwarding calls, if the user does not choose any other ringing option from the telephone.

User Selectable Call Redirection

Passwords

For security reasons, this feature can only be used when the user dials a Station Control Password. This prevents users from changing the ringing options or the redirection DN's of other users without them knowing.

Also, the feature can only be activated from the telephone which is being affected. Users at other telephones cannot change the programming of other users' telephones using this feature, even if they know the passwords.



You choose the number of digits in the passwords for the entire customer group. This number is programmed in the Customer Data Block. Talk to your system supplier about programming it once you have decided how many digits you want. The range is one to eight digits. If it is set at zero, the User Selectable Call Redirection feature is disabled.

Telephones

You select the telephone users who need this feature. You activate the following things in the programming of their telephones:

- ◆ default Ringing Cycle Option
- ◆ Station Control Password
- ◆ User Selectable Call Redirection Class of Service
- ◆ redirection DN(s) for the Hunting and Call Forward No Answer features

The Hunt DN and/or the Call Forward No Answer DN must be pre-programmed in the database for a telephone in order for a user to be able to change the DN's using this feature.

SL-1-type and digital telephones can be configured with a key for this feature. The Class of Service must still be User Selectable Call Redirection allowed. The user of one of these types of telephones can choose to activate the feature using the key or the dial access methods discussed below.

User Selectable Call Redirection

Using the feature

Special Prefix Code (SPRE) method

There is a standard feature access code “9915,” which works from any telephone, if it has the USCR feature enabled.

To use this, you dial 9915 after the Special Prefix (SPRE) code configured for your customer group. For more information on the Special Prefix code, refer to the *You should know this* module in this book.

Users must dial a code between 1 and 5 to tell the system which item, of five possible choices, they want to reprogram using this feature.

The codes and what they represent are shown in the following table.

Table 239
USCR codes and functions

Code	Used to program
1	Call Forward No Answer DN (Call Forward No Answer DN for internal calls, if Call Forward by Call Type activated *)
2	Hunt DN (Hunt DN for internal calls, if Call Forward by Call Type activated*)
3	Call Forward No Answer DN for external calls, if Call Forward by Call Type activated*
4	Hunt DN for external calls, if Call Forward by Call Type activated*
5	Ringling Cycle Option

* for more information on Call Forward by Call Type see Task 36, *Call Forward by Call Type (Hunting Option)* and Task 35, *Call Forward by Call Type (Call Forward No Answer Option)*.

To use the feature, the user first lifts the handset or gets dial tone by pressing a DN key, if the telephone has keys. For options one to four, the digits a user dials next are:

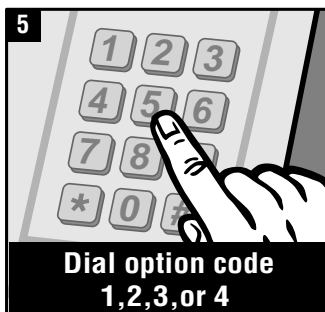
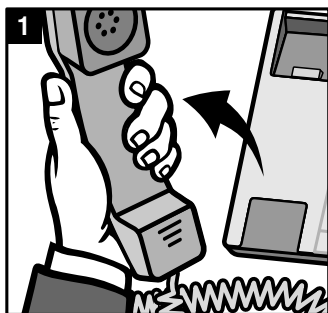
SPRE + 9915 + Station Control Password + USCR option code 1, 2, 3 or 4 + new redirection DN.

User Selectable Call Redirection

For option five, the digits are:

SPRE + 9915 + Station Control Password + USCR option code 5 +
Ringing Cycle Option 0, 1 or 2.

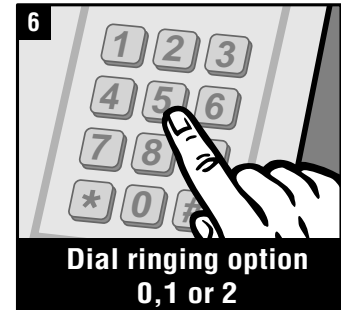
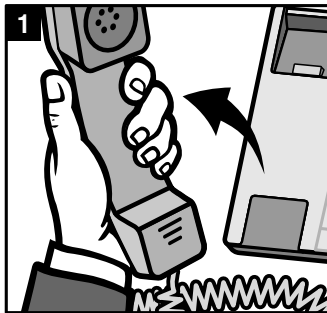
SPRE method for changing redirection DNs



553-0101T USCR

User Selectable Call Redirection

SPRE method for changing Ringing Cycle Options



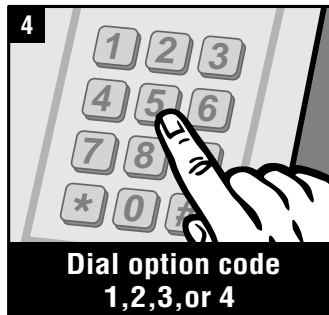
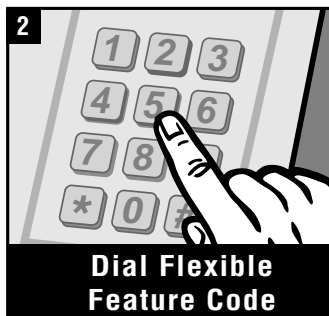
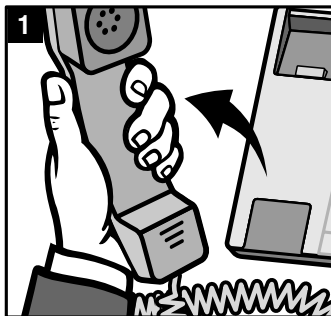
553-0102T USCR

User Selectable Call Redirection

Flexible Feature Code (FFC) method

You can also use a Flexible Feature Code if you or your system supplier programs a code for this feature in overlay program 57. This method might be easier to remember than the SPRE method. This code works from any telephone which has the USCR feature enabled. Talk to your system supplier about activating the Flexible Feature Code, if you want it.

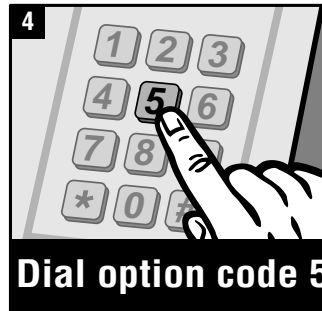
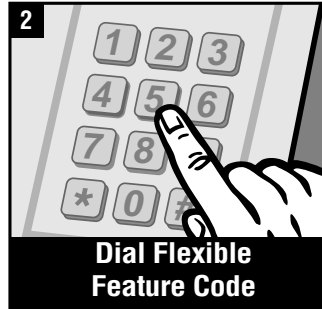
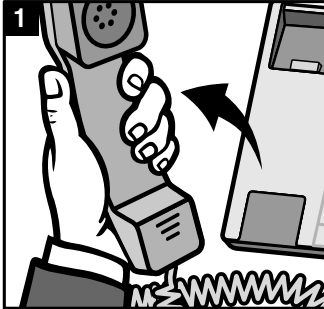
FFC method for changing redirection DN's



553-0103T USCR

User Selectable Call Redirection

FFC method for changing Ringing Cycle Options



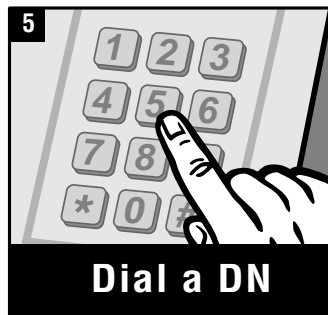
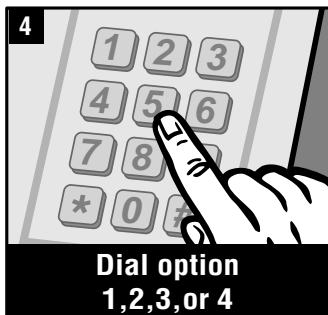
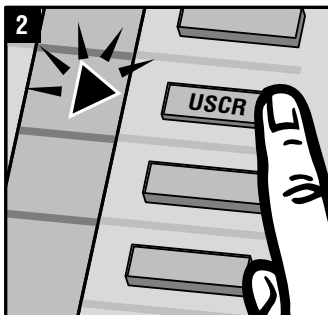
553-0104T USCR

User Selectable Call Redirection

Key method (SL-1-type or digital telephones only)

If the Class of Service has the USCR feature allowed, then you can assign a key for this feature. This makes access to the feature very convenient. The user does not have to remember the feature code (either SPRE or FFC method). However, if the user prefers to dial either one of these codes, these types of telephone can be used.

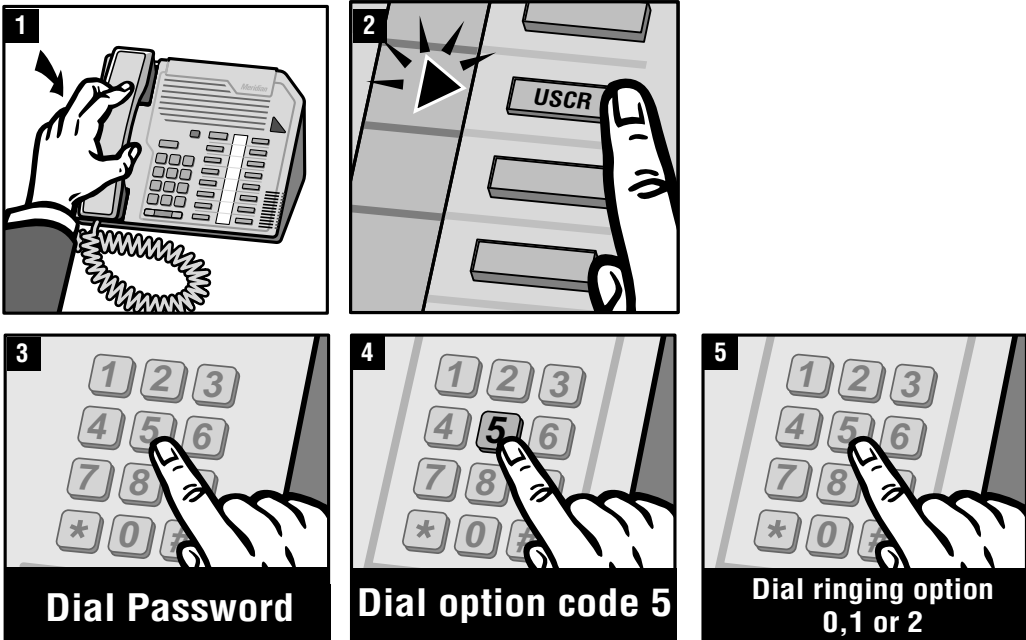
Key method for changing redirection DN's



553-0105T USCR

User Selectable Call Redirection

Key method for changing Ringing Cycle Options



553-0106T USCR

Basic Rate Interface (BRI)

Basic Rate Interface (BRI) telephones are excluded from the use of the USCR feature. These telephones cannot be used for features requiring key access and SPRE codes and FFCs cannot be dialed from them either.

When you program this kind of telephone, the Ringing Cycle Option is set at the default, which is option 0. For the Call Forward No Answer feature to work, these telephones ring the number of times defined for Ringing Cycle Option 0 in the Customer Data Block.

User Selectable Call Redirection

Interactions with other features

User Selectable Call Redirection works with, affects, or is affected by, several other features that are basic to the system. You need to be aware of, and understand, these interactions before programming. The rest of this sub-section tells you what you need. For further information you can use the *X11 features and services*.

You can mention these interactions to users in training sessions if they are going to use these features. Users sometimes report these interactions as problems if they lack understanding. Proper training can reduce the number of repair calls of this nature.

Call Forward No Answer and Message Waiting interact with USCR



The only telephones for which you can activate the USCR Ringing Cycle Option are those with Call Forward No Answer allowed or Message Waiting allowed in the Class of Service.

Call Forward by Call Type interacts with USCR

With Call Forward by Call Type activated in the Class of Service of a telephone, the two features Call Forward No Answer and Hunting are affected. For each telephone you can program a different DN for each of the following situations:

- ◆ internal calls which are unanswered
- ◆ external calls which are unanswered
- ◆ internal calls to telephone when busy
- ◆ external calls to telephone when busy

For more information, refer to Task 35, *Call Forward by Call Type (Call Forward No Answer Option)* and Task 36, *Call Forward by Call Type (Hunting Option)*.

The USCR feature allows the user to change, from the telephone, the DN pre-programmed for any of the four features listed above.

User Selectable Call Redirection

Distinctive Ringing interacts with USCR

You can ask to have Trunk groups programmed for Distinctive Ringing. If you do this, calls coming in on these Trunk groups ring the telephones in a different way from regular calls. Users can tell what kind of call is ringing the telephone before answering.

On a customer group basis you decide the number of distinctive rings which is considered to be an unanswered call. With USCR operating, there are three Ringing Cycle Options for Distinctive ringing just like there are three Ringing Cycle Options for non-distinctive ringing calls.

When you program a telephone, you give it a particular Ringing Cycle Option. The user might choose a different one with the USCR feature. Non-distinctive ringing calls will ring the number of times programmed for that customer option and distinctive ringing calls will ring the number of times programmed for that customer-wide option.

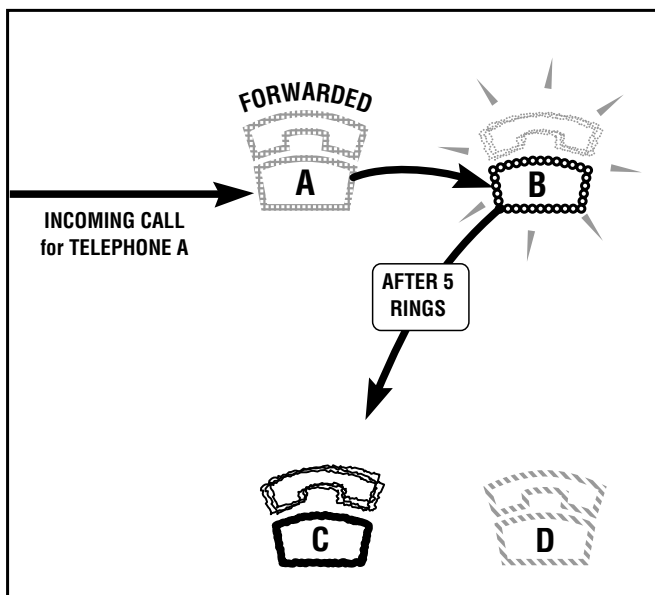
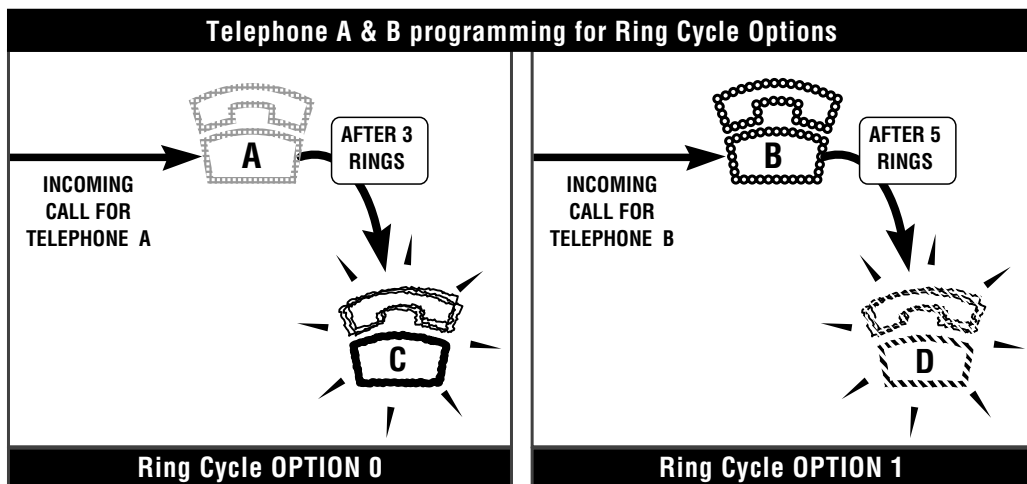
For example, if you assign Ringing Cycle Option 1 to a telephone, and the customer-wide choice for option 1 (non-distinctive) is 3 rings and (distinctive) is 2 rings, the telephone will ring 3 times for non-distinctive calls and twice for distinctive calls, before the Call Forward No Answer feature will redirect the call.

It is important to make users aware of this, otherwise they might report inconsistent ringing as a problem.

User Selectable Call Redirection

Call Forward All Calls interacts with USCR

If a telephone user has Call Forwarded calls to another DN, and a call comes in which rings no answer, it is the Ringing Cycle Option programmed for the other telephone which determines how many times it rings before the Call Forward No Answer feature redirects the call. The call is redirected to the DN which is programmed for the Call Forward No Answer feature at the original telephone.



553-0107T USCR

User Selectable Call Redirection

Second Level Call Forward No Answer interacts with USCR

With this feature you can program a telephone to allow an unanswered call to try another DN, and if it isn't answered there, to try another DN. The limit is two different DNs for one call. The number of times the telephones ring before the call is forwarded is determined by the Ringing Cycle Option programmed at each ringing telephone.

Multiple Appearance Redirection Prime (MARP) interacts with USCR

In a shared (Multiple Appearance) DN situation, on systems using Release 18 or later software, you can designate one of the telephones as prime for redirection features. If the users of the telephones with the Multiple DNs use the USCR feature, the system uses the MARP telephone programming as the prime for the feature.

For more information on MARP and also the way the system operates on pre-Release 18 systems, refer to Task 40, *Multiple Appearance DN Redirection Prime*.

Hunting interacts with USCR

Short Hunting can be programmed on SL-1-type and digital telephones. For more information on this type of Hunting and the Hunting feature in general, refer to Task 38, *Hunting*.

The digits you use in response to the HUNT prompt in the overlay program when you implement Short Hunting are 000, instead of entering the digits in a DN. A user who wants to change to Short Hunting cannot enter 000 using the USCR feature and a user who already has 000 programmed, cannot change it to a DN using USCR. These changes must be made by a programmer.

User Selectable Call Redirection

Improving feature performance



The parts that follow make you aware of issues that could affect implementation. You should resolve these issues before you begin programming. Use the checklist under *What to have ready* to confirm that you have what you need.

Control tips



- ◆ If you have User Selectable Call Redirection in place, you might want to print the DNs which users are programming on a regular basis. If you have a network, users might be programming DNs which are actually in other switches and this might be causing confusion to your callers. Tell users what DNs are acceptable for them to program and tell them you are doing regular printouts to check this.

Administration tips



- ◆ Decide what number of rings to choose for each of the three Ringing Cycle Options. Ask many different types of users for a good cross-section of the different users' requirements. Do the same for Distinctive Ringing Cycle Options, if you are using it.
- ◆ Choose the most common number of rings for Ringing Cycle Option 0 since that is the default when you program a new telephone
- ◆ The Password length should be long enough to make it difficult to figure out another user's password, but not so long that the feature is inconvenient to use. A length over four digits is recommended.
- ◆ There are messages, called CSC messages, which printout on the technician's printer when users program using the USCR feature from the telephones. The messages which can be most useful are those which indicate the user has made a mistake in inputting the digits. If that user calls in a repair problem, the message can help sort out the problem. You can use the messages to find out who you need to retrain. Talk to your system maintainer about this.

User Selectable Call Redirection

Training tips



- ◆ Avoid problems by doing proper training on an ongoing basis.
- ◆ Tell users what number of rings each Ringing Cycle Option is. Tell them what the default setting on the telephones is.
- ◆ Decide which method of feature activation you want users to know about. Tell them what the SPRE code is and/or the FFC, depending on the method you choose.
- ◆ Tell the users what their Station Control Passwords are and how to change one from the telephone. Stress the confidential nature of the Password.
- ◆ This feature is going to require practice to make users comfortable. Include practice in your training sessions.
- ◆ Make users aware of any interactions of this feature with others to minimize the number of repair calls you get.

User Selectable Call Redirection

What to have ready

The following checklist summarizes the steps you should take before implementing the basic feature and/or the optional related features associated with the basic feature.

Table 240
Checklist

Basic	Optional	Preparation
✓		Determine the TN which is assigned to this telephone. If you do not assign TNs, ask your system supplier.
✓		Decide how many rings to program for Ringing Cycle Options 0, 1 and 2 for the customer group.
✓		Decide on the Password length for the customer group.
✓		Decide what DNs to program for Hunting and Call Forward No Answer for each telephone.
✓		Decide what users need a key for the feature.
✓		On systems with software previous to Release 18: If users must share prime DNs, strongly encourage them to use the same internal and external Hunt DNs for all telephones sharing the DN.
✓		On systems with software Release 18 or later: If users must share prime DNs decide on the MARP TN which is appropriate for the group's needs. Tell the users involved.
	✓	Decide how many distinctive rings to program for Distinctive Ringing Cycle Options 0, 1 and 2 for the customer group.
	✓	Select a Flexible Feature code.

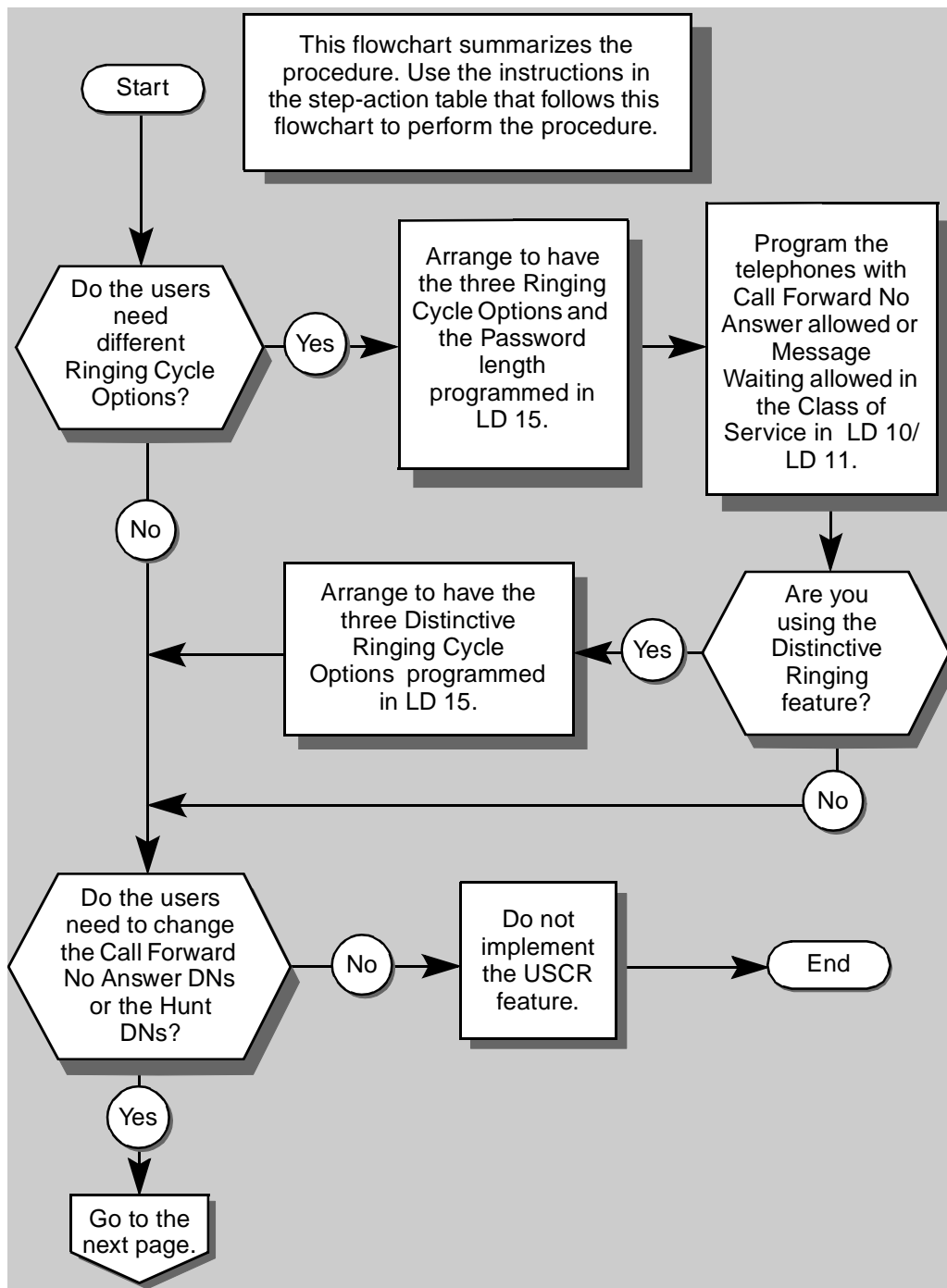
User Selectable Call Redirection

What's next?

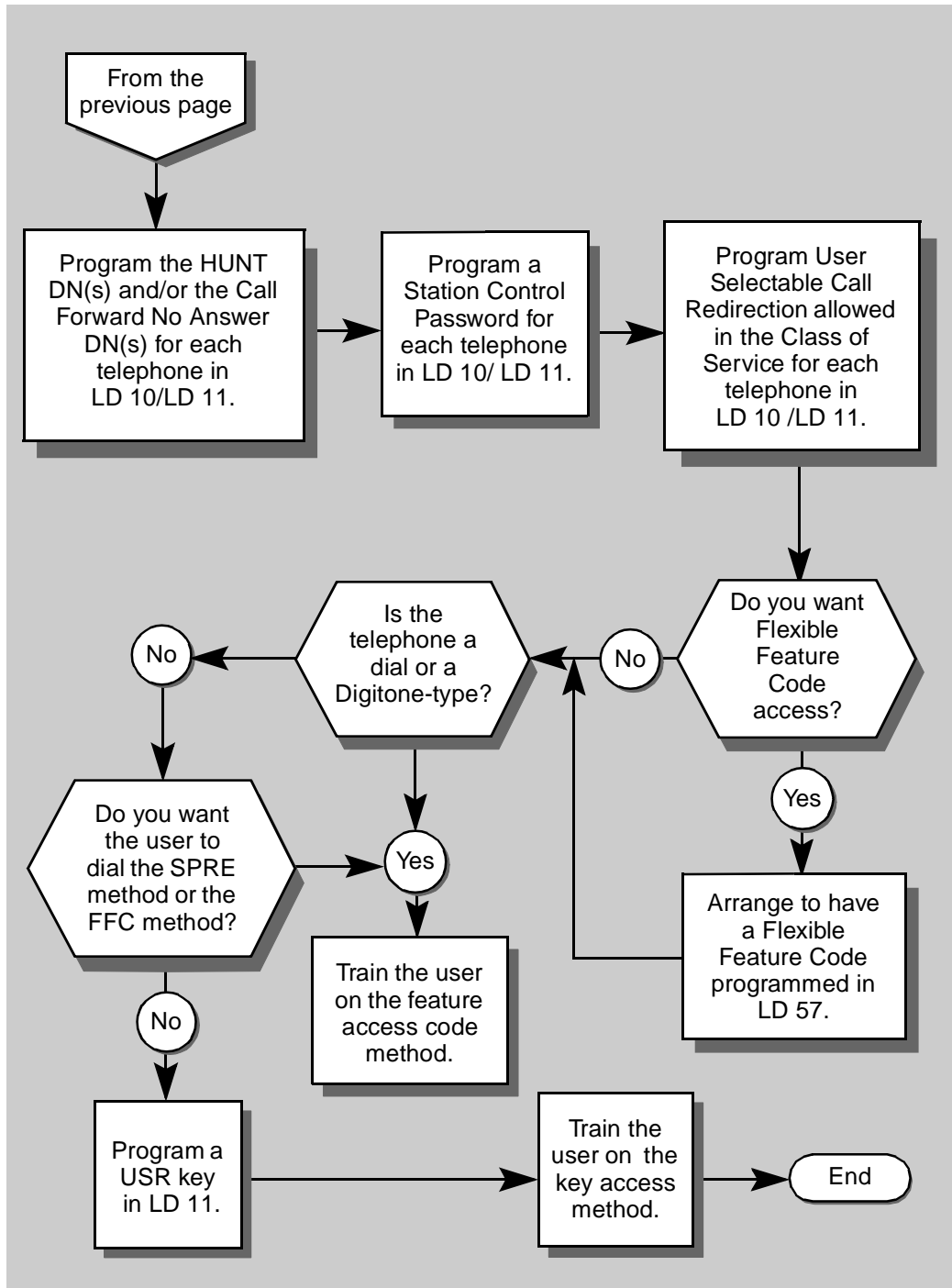
A flowchart follows which summarizes the implementation decisions and procedures for User Selectable Call Redirection.

A step-action table follows the flowchart. The table explains the programming steps necessary to implement this feature.

User Selectable Call Redirection



User Selectable Call Redirection



User Selectable Call Redirection

The preceding material in this module contains essential information. You should be aware of this information before you proceed.

This step-action table covers the prompts related to the implementation or change of the User Selectable Call Redirection feature only.



SCH codes can appear when you are programming. Refer to the *Basic programming instructions* module for more information.

STEP	ACTION								
1	Log in								
	For information on proper login procedures, refer to <i>Basic programming instructions</i> in this book.								
2	Choose your starting point from the choices below.								
	<table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>user needs selectable Ringing Cycle Options and the three options are not programmed already</td> <td>step 3</td> </tr> <tr> <td>user needs selectable call redirections only and Password length is not programmed yet</td> <td>step 6</td> </tr> <tr> <td>user needs selectable Ringing Cycle Options or call redirections and the options and Password length are programmed already</td> <td>step 7</td> </tr> </tbody> </table>	If	Do	user needs selectable Ringing Cycle Options and the three options are not programmed already	step 3	user needs selectable call redirections only and Password length is not programmed yet	step 6	user needs selectable Ringing Cycle Options or call redirections and the options and Password length are programmed already	step 7
If	Do								
user needs selectable Ringing Cycle Options and the three options are not programmed already	step 3								
user needs selectable call redirections only and Password length is not programmed yet	step 6								
user needs selectable Ringing Cycle Options or call redirections and the options and Password length are programmed already	step 7								
— continued —									

User Selectable Call Redirection

STEP ACTION

3 Arrange to have Ringing Cycle Options programmed.

Choose the number of rings for the three Ringing Cycle Options.

If you do not have access to LD 15, the Customer Data Block, arrange to have your system maintainer program these values.



CAUTION

Check your maintenance agreement before working in LD 15.



Refer to the *X11 input/output guide* for further information.

4 Decide on Distinctive Ringing Cycle Options.

If	Do
you do not have Distinctive Ringing programmed on any Trunk groups	step 6
you have Distinctive Ringing programmed on your Trunk groups	step 5

— continued —

User Selectable Call Redirection

STEP	ACTION
5	<p>Arrange to have Distinctive Ringing Cycle Options programmed.</p> <p>Choose the number of rings for the three Distinctive Ringing Cycle Options. If you do not have access to LD 15, the Customer Data Block, arrange to have your system maintainer program these values.</p> <div style="border: 1px solid black; padding: 10px;"><p>CAUTION Check your maintenance agreement before working in LD 15.</p></div> <p>Refer to the <i>Software Input/Output Guide Book 1 of 2</i> for further information.</p>
6	<p>Arrange to have the Station Control Password length programmed.</p> <p>Choose the number of digits in the Station Control Passwords. If you do not have access to LD 15, the Customer Data Block, arrange to have your system maintainer program these values.</p> <div style="border: 1px solid black; padding: 10px;"><p>CAUTION Check your maintenance agreement before working in LD 15.</p></div> <p>Refer to the <i>X11 input/output guide</i> for further information.</p> <p style="text-align: center;">— continued —</p>

User Selectable Call Redirection

STEP	ACTION	
7	Ensure the telephone has the correct Class of Service.	
	If	Do
	you are programming a new telephone	Allow Call Forward No Answer (FNA) or Message Center (MWA) (if appropriate) in Class of Service. Refer to Task 37, <i>Call Forward No Answer</i> or Task 25, <i>Message Center</i> for instructions. Return to step 8 after you do this.
	you are programming a change to an existing telephone	Do a TNB printout of the telephone you are checking. Refer to <i>Basic programming instructions</i> for more information. Look at the Class of Service (CLS). Make sure either Call Forward No Answer is allowed (FNA) or Message Waiting is allowed (MWA).
	If	Do
	Class of Service is correct	step 8
	Class of Service is not correct	Activate the proper Class of Service. Refer to Task 37, <i>Call Forward No Answer</i> or Task 25, <i>Message Center</i> . Return to step 8 after you do this.
8	Program the telephone.	
	If	Do
	new dial or Digitone -type telephone	step 9
	changing an existing dial or Digitone -type telephone	step 18
	new digital or SL-1-type telephone	step 12
	changing existing digital or SL-1-type telephone	step 18
— continued —		

User Selectable Call Redirection

STEP	ACTION	
9	Choose the type of redirection feature changes you want the user to make.	
	If	Do
	you are not activating Call Forward by Call Type and you want users to change Hunt DN and /or Call Forward No Answer DN	step 10
	you are activating Call Forward by Call Type and users are to change internal and external Hunt DNs and internal and external Call Forward No Answer DNs	step 11
10	Program a new dial or Digitone -type telephone without Call Forward by Call Type allowed.	
	> LD 10	
	REQ NEW	Program a new telephone
	TYPE 500	Dial or Digitone-type telephone
	TN L S C U	Input the Terminal Number(TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...	Refer to Tasks 1–6 for information.
	step 10 continues.....	
	— continued —	

User Selectable Call Redirection

STEP ACTION

10 continued ...

carriage return until you see the prompt HUNT

HUNT X . . X If you want user to be able to change the DN, input the DN to which calls are to Hunt

X..X represents a DN
 1–4 digits prior to Release 13
 1–7 digits Release 13 and later
 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

carriage return until you see the prompt SCPW

SCPW X . . X Number of digits in password must equal the number of digits programmed in LD 15 for Password length (1–8)

SCPW prompt does not appear, if password length is 0 in LD 15

carriage return until you see the prompt CLS

CLS FNA HTA USRA FNA required if selectable RCO needed (MWA can replace FNA, if you are using Message Center software).
 Hunting allowed is required if Hunt DN to be programmed and to be user selectable.
 USRA required for USCR feature.

carriage return until you see the prompt RCO

RCO Input 1 or 2 — default is 0. These relate to the Ringing Cycle Options which were pre-programmed in LD 15.

carriage return until you see the prompt FTR

— continued —

User Selectable Call Redirection

STEP	ACTION	
10 continued ...		
FTR	FDN X . . X	If you want user to be able to change the DN, input the Flexible Call Forward No Answer DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) Refer to Task 37, <i>Call Forward No Answer</i> .
Go to step 17.		
11	Program a new dial or Digitone -type telephone with Call Forward by Call Type allowed.	
	> LD 10	
REQ	NEW	Program a new telephone
TYPE	500	Dial or Digitone-type telephone
TN	L S C U	Input the Terminal Number(TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 1–6 for information.
carriage return until you see the prompt HUNT		
HUNT	X . . X	If you want user to be able to change the DN, input the DN to which internal calls are to Hunt X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
— continued —		

User Selectable Call Redirection

STEP ACTION

11 continued ...

carriage return until you see the prompt SCPW

SCPW X . . X Number of digits in password must equal the number of digits programmed in LD 15 for Password length (1–8)

SCPW prompt does not appear, if password length is 0 in LD 15

carriage return until you see the prompt CLS

CLS FNA HTA CFTA USRA

FNA is required if selectable RCO needed (MWA can replace FNA, if you are using Message Center software).

Hunting allowed is required if Hunt DN to be programmed and to be user selectable.

CFTA is required for redirecting calls by call type. Refer to Tasks 35 and 36.

USRA is required for USCR feature.

carriage return until you see the prompt RCO

RCO Input 1 or 2 — default is 0. These relate to the Ringing Cycle Options which were pre-programmed in LD 15. Carriage return until you see the prompt FTR.

FTR FDN X . . X If you want user to be able to change the DN, input the Flexible Call Forward No Answer DN for internal calls

X..X represents a DN

1–4 digits prior to Release 13

1–7 digits Release 13 and later

1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)

Refer to Task 37, *Call Forward No Answer* for more information.

— continued —

User Selectable Call Redirection

STEP	ACTION	
11 continued ...		
FTR	EFD X . . X	If you want user to be able to change the DN, input the External Flexible Call Forward No Answer DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection Refer to Task 35, <i>Call Forward by Call Type (Call Forward No Answer Option)</i> for more information.
FTR	EHT X . . X	If you want user to be able to change the DN, input the External Hunt DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection Refer to Task 36, <i>Call Forward by Call Type (Hunting Option)</i> for more information.
Go to step 17.		
12	Choose the type of redirection feature changes you want user to make.	
If	Do	
you are not activating Call Forward by Call Type and you want users to change Hunt DN and /or Call Forward No Answer DN	step 13	
you are activating Call Forward by Call Type and users are to change internal and external Hunt DN and internal and external Call Forward No Answer DNs	step 14	
— continued —		

User Selectable Call Redirection

STEP	ACTION	
13	Program a new digital or SL-1-type telephone without Call Forward by Call Type allowed.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	program the basics...	Refer to Tasks 7–19 for information.
	carriage return until you see the prompt FDN	
	FDN X . . X	If you want user to be able to change the DN, input the Flexible Call Forward No Answer DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) Refer to Task 37, <i>Call Forward No Answer</i> for more information.
	carriage return until you see the prompt SCPW	
	SCPW X . . X	Number of digits in password must equal the number of digits programmed in LD 15 for Password length (1–8) SCPW prompt does not appear, if password length is 0 in LD 15
	carriage return until you see the prompt CLS	
	CLS FNA HTA USRA	FNA is required if selectable RCO needed (MWA can replace FNA, if you are using Message Center software). Hunting allowed is required if Hunt DN to be programmed and to be user selectable. USRA is required for USCR feature.
	— continued —	

User Selectable Call Redirection

STEP	ACTION	
13 continued ...		
	carriage return until you see the prompt RCO	
RCO		Input 1 or 2 — default is 0. These relate to the Ringing Cycle Options which were pre-programmed in LD 15.
	carriage return until you see the prompt HUNT	
HUNT	X . . X	If you want user to be able to change the DN, input the DN to which calls are to Hunt
		X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	Go to step 17	
14	Program a new digital or SL-1-type telephone with Call Forward by Call Type allowed.	
	> LD 11	
REQ	NEW	Program a new telephone
TYPE		Input correct type of SL-1 or digital telephone
TN	L S C U	Input the Terminal Number (TN) assigned to the telephone (Loop number, Shelf number, Card number, Unit number)
	program the basics...	Refer to Tasks 7–19 for information.
— continued —		

User Selectable Call Redirection

STEP ACTION

14 continued ...

carriage return until you see the prompt FDN

FDN X . . X If you want user to be able to change the DN, input the Flexible Call Forward No Answer DN for internal calls
 X..X represents a DN
 1–4 digits prior to Release 13
 1–7 digits Release 13 and later
 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
 Refer to Task 37, *Call Forward No Answer* for more information.

carriage return until you see the prompt SCPW

SCPW X . . X Number of digits in password must equal the number of digits programmed in LD 15 for Password length (1–8)
 SCPW prompt does not appear, if password length is 0 in LD 15

carriage return until you see the prompt CLS

CLS FNA HTA USRA CFTA
 FNA is required if selectable RCO needed (MWA can replace FNA, if you are using Message Center software).
 HT A is required if Hunt DN to be programmed and to be user selectable.
 USRA is required for USCR feature.
 CFTA is required for redirecting calls by call type. Refer to Tasks 35 and 36.

carriage return until you see the prompt RCO

RCO Input 1 or 2 — default is 0. These relate to the Ringing Cycle Options which were pre-programmed in LD 15.

— continued —

User Selectable Call Redirection

STEP	ACTION
14 continued ...	
	carriage return until you see the prompt EFD
EFD	X . . X
	If you want user to be able to change the DN, input the External Flexible Call Forward No Answer DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) Refer to Task 37, <i>Call Forward No Answer</i> for more information.
	carriage return until you see the prompt HUNT
HUNT	X . . X
	If you want user to be able to change the DN, input the DN to which internal calls are to Hunt X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection)
	carriage return until you see the prompt EHT
EHT	X . . X
	If you want user to be able to change the DN, input the External Hunt DN X..X represents a DN 1–4 digits prior to Release 13 1–7 digits Release 13 and later 1–13 digits Release 14 and later (see ISDN Primary Rate Interface, Network Call Redirection) Refer to Task 36, <i>Call Forward by Call Type (Hunting Option)</i> for more information.
	Go to step 17.
— continued —	

User Selectable Call Redirection

STEP	ACTION	
15	Determine the method of feature access.	
	If	Do
	users are to have Flexible Feature Code access	Arrange to have a feature code programmed in LD 57, if it is not already programmed. Then go to step 22.
	the user is to have a key for the feature on a digital or SL-1-type telephone	step 16
	users are to have SPRE code access	step 22
16	Assign a feature key to a telephone.	
	> LD 11	
	REQ NEW	Program a new telephone
	TYPE	Input correct type of SL-1 or digital telephone
	TN L S C U	Input the Terminal Number (TN) assigned to the telephone (L oop number, S helf number, C ard number, U nit number)
	carriage return until you see the prompt KEY	
	KEY XX USR	XX represents a key number
		USR feature can be assigned to the following key numbers, depending on the kind of telephone:
	Key #	Telephone type
	1-5	M2006
	1-7	M2008
	1-59	M2216, M2616
	1-69	SL-1
	— continued —	

User Selectable Call Redirection

STEP	ACTION	
17	Finish the overlay program.	
	Carriage return until you see one of the following messages:	
	U.data P.data	small systems
	or	
	MEM AVAIL: (U/P) USED:TOT:	large systems
	When one of these messages appears, your change has been entered into the memory.	
	Go to step 22.	
18	Decide on the type of change you want to make.	
	If	Do
	you want to change the Password length	CAUTION: A data dump and SYSLOAD are required if you make this change. Contact your system supplier before you proceed.
	you want to change the Flexible Feature Code	Arrange to have the code changed in LD 57. Retrain the users.
	you want to change a user's Station Control Password	Tell the user how to do it with a Flexible Feature Code or re-program the Password in LD 10 or LD 11. Change the response to the SCPW prompt. Refer to <i>Basic programming instructions</i> for help with simple changes.
	you want to add a USR key to an existing telephone	step 16, except you respond to the REQ prompt with CHG
	you want to change a telephone from USCR allowed to USCR denied	Change the response to the CLS prompt from USRA to USRD. Refer to <i>Basic programming instructions</i> for help with simple changes. You do not have to remove the telephone's Password since it is used for other features. Go to step 22.
	you want to change a telephone from USCR denied to USCR allowed	step 19
	— continued —	

User Selectable Call Redirection

STEP ACTION

19 Change a telephone from USCR denied to allowed.

Do a DNB and TNB printout of the telephone to see what parameters are already programmed. Refer to *Basic programming instructions* in this book for further information.

Look at:

- ◆ SCPW for the Password
- ◆ Class of Service (CLS) for FNA, if selectable Ringing Cycle Options is required
- ◆ FDN, HUNT DN
- ◆ if Class of Service (CLS) is Call Forward by Call Type allowed (CFTA), look for the external (EHT) DN and external (EFD) DN.

> LD 10 or > LD 11

REQ CHG Program a change to an existing telephone

TYPE Input correct type of 500 (dial or Digitone - type), SL-1 or digital telephone

TN L S C U Input the Terminal Number (TN) assigned to the telephone (**L**oop number, **S**helf number, **C**ard number, **U**nit number)

ECHG

If **Do**

using "Easy Change" Input YES and go to step 20.

not using "Easy Change" Input NO or <cr> and go to step 21.

For more information on "Easy Change," refer to the *Basic programming instructions* module of this book.

— continued —


User Selectable Call Redirection

STEP	ACTION		
20	Program an "Easy Change" to an existing telephone.		
ITEM	CLS USRA	Class of Service User Selectable Call Redirection allowed	
ITEM	Program any required changes to SCPW, CLS, FDN, HUNT, EFD, EHT, or FTR based on what you saw in the TNB printout earlier. Refer to step 9 and step 12 for information about these prompts.		
Carriage return until you see one of the following messages:			
U.data P.data small systems			
or			
MEM AVAIL: (U/P) USED:TOT: large systems			
When one of these messages appears, your change has been entered into the memory.			
Go to step 22.			
— continued —			

User Selectable Call Redirection


STEP	ACTION						
21	<p>Program a change (not an “Easy Change”) to an existing telephone.</p> <p>carriage return until you see the prompt CLS</p> <p>CLS USRA Class of Service User Selectable Call Redirection allowed</p> <p>Carriage return until you see one of the following messages:</p> <p>U.data P.data small systems</p> <p>or</p> <p>MEM AVAIL: (U/P) USED:TOT: large systems</p> <p>When one of these messages appears, your change has been entered into the memory.</p> <p>Note: Program any required changes to SCPW, CLS, FDN, HUNT, EFD, EHT, or FTR based on what you saw in the TNB printout earlier. Refer to step 9 and step 12 for information about these prompts.</p> <p>Go to step 22.</p>						
22	<p>Check that the programming which you have just done is correct.</p> <p>Verify that the telephone behaves as expected when you attempt to use the User Selectable Call Redirection feature.</p> <table border="0"> <thead> <tr> <th>If</th> <th>Do</th> </tr> </thead> <tbody> <tr> <td>feature works properly</td> <td>step 23</td> </tr> <tr> <td>feature does not work properly</td> <td>step 1</td> </tr> </tbody> </table> <p style="text-align: center;">— continued —</p>	If	Do	feature works properly	step 23	feature does not work properly	step 1
If	Do						
feature works properly	step 23						
feature does not work properly	step 1						

User Selectable Call Redirection

STEP	ACTION						
23	<p>Arrange for a data dump to be performed.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Do</th> </tr> </thead> <tbody> <tr> <td>you do not have access to LD 43</td> <td>Contact your system supplier.</td> </tr> <tr> <td>you have access to LD 43</td> <td>step 24</td> </tr> </tbody> </table>	If	Do	you do not have access to LD 43	Contact your system supplier.	you have access to LD 43	step 24
If	Do						
you do not have access to LD 43	Contact your system supplier.						
you have access to LD 43	step 24						
24	<p>Perform a data dump to permanently store the programming you have just completed.</p> <div style="border: 2px solid black; padding: 10px; margin: 20px 0;">  <p>CAUTION Check your maintenance agreement before working in LD 43.</p> </div> <p>Refer to the <i>Basic programming instructions</i> module in this book or refer to the <i>X11 input/output guide</i> for more information on LD 43.</p> <pre>> LD 43 . EDD <cr></pre>						
— continued —							

User Selectable Call Redirection

STEP	ACTION								
25	<p>Verify that the dump was successful.</p> <p>TTY response: NO GO BAD DATA or DATA DUMP COMPLETE</p> <table border="0"> <tr> <td style="vertical-align: top;">If</td> <td style="vertical-align: top;">Do</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td>data dump fails</td> <td>Contact your system supplier.</td> </tr> <tr> <td>data dump succeeds</td> <td>step 26</td> </tr> </table>	If	Do	-----		data dump fails	Contact your system supplier.	data dump succeeds	step 26
If	Do								

data dump fails	Contact your system supplier.								
data dump succeeds	step 26								
26	<p>Terminate this overlay program.</p> <p>. ****</p>								
27	<p>Terminate this programming session.</p> <p>Log off.</p> <p>> LOGO</p>								
28	<p>You have completed the programming required to add or change the User Selectable Call Redirection feature on a telephone.</p>								
									

1568 Redirecting calls

of 1776

User Selectable Call Redirection

Meridian 1 Options 21 through 81C
Basic Telecom Management
Book 1 of 3

© 1995–2000 Nortel Networks

All rights reserved

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. SL-1, MERIDIAN 1 and DIGITONE are trademarks of Nortel Networks.

PO Number: P0912434

Document release: Standard 6.00

Date: October 2000

Printed in Canada

NORTEL
NETWORKS

